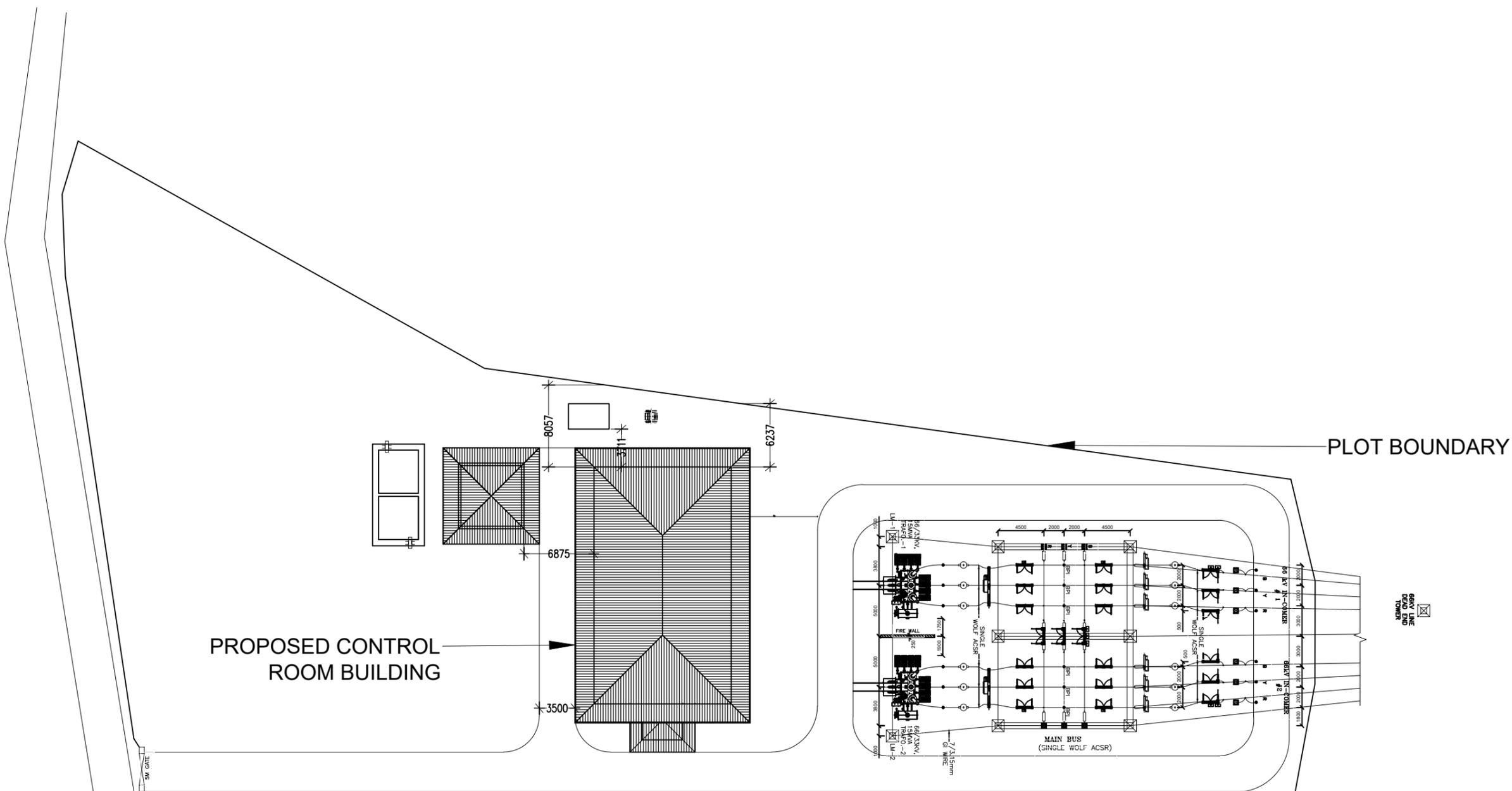


ARCHITECTURAL DRAWING

66/33kV SUBSTATION
CONTROL ROOM BUILDING
JAMTSHOLING, SIPS00
BHUTAN POWER CORPORATION LIMITED



PROPOSED CONTROL ROOM BUILDING

TOTAL AREA = 2.996 AC.
 BUILT UP AREA = .08 AC.
 COVERAGE = 2.67%

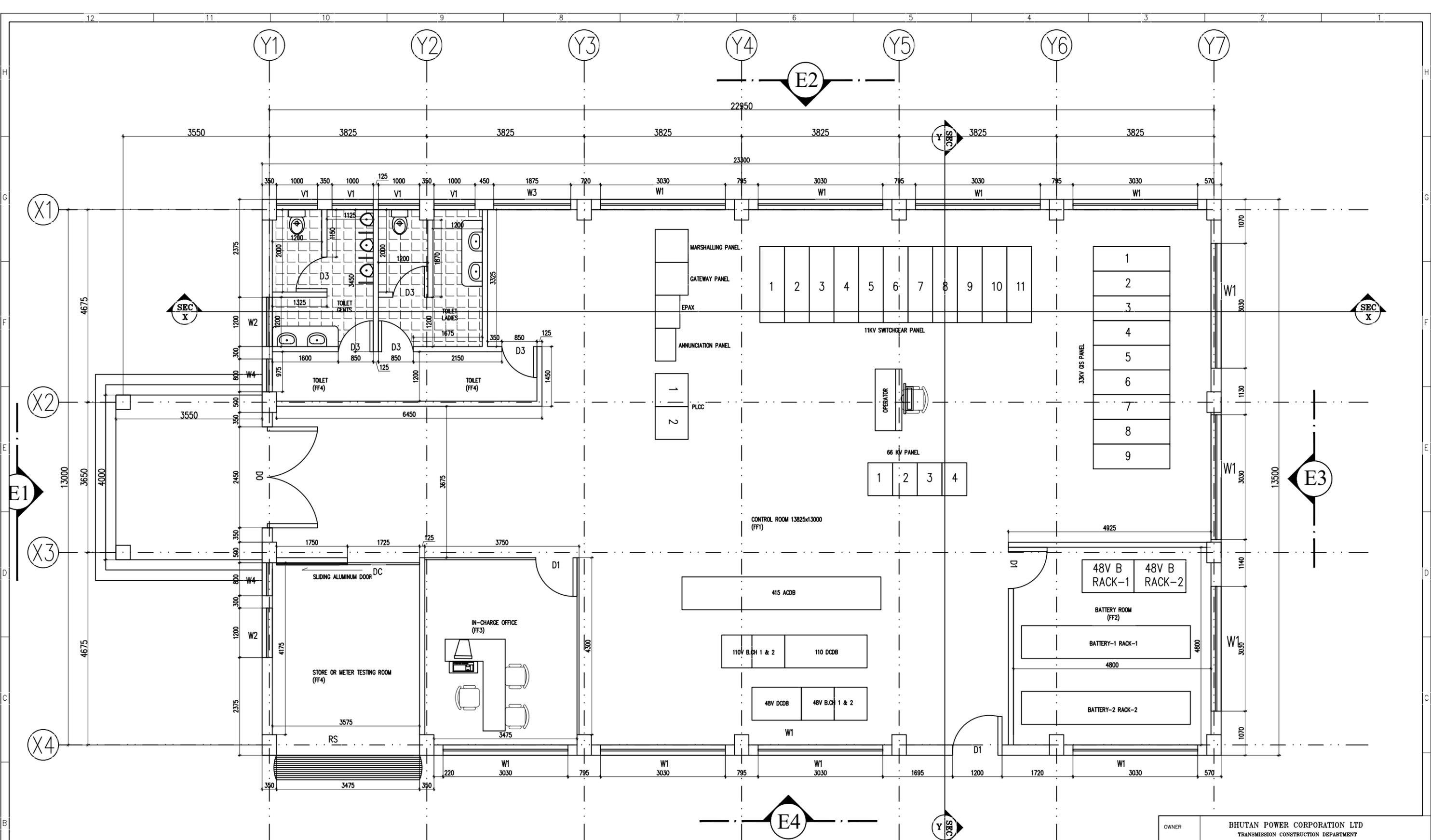
ROAD

PLOT BOUNDARY

66KV LINE DEAD END TOWER

REV. No.	DESCRIPTION	CHECKED	APPROVED	DATE

OWNER	BHUTAN POWER CORPORATION LTD TRANSMISSION CONSTRUCTION DEPARTMENT		
PROJECT	CONSTRUCTION OF 66/33kV SUBSTATION AT JAMTSHOLING, SIPS00		
TITLE	SITE LAYOUT PLAN		
DRAWN	D.KINLEY (MPE-CIVIL)	DATE	FEBRUARY 2021
CHECKED		SCALE	NTS
APPROVED		SHEET No: 01	
DRG. No:	66KV SUBSTATION JAMTSHOLING/CONTROLROOM/ARCHITECTURAL/01		REV: 0

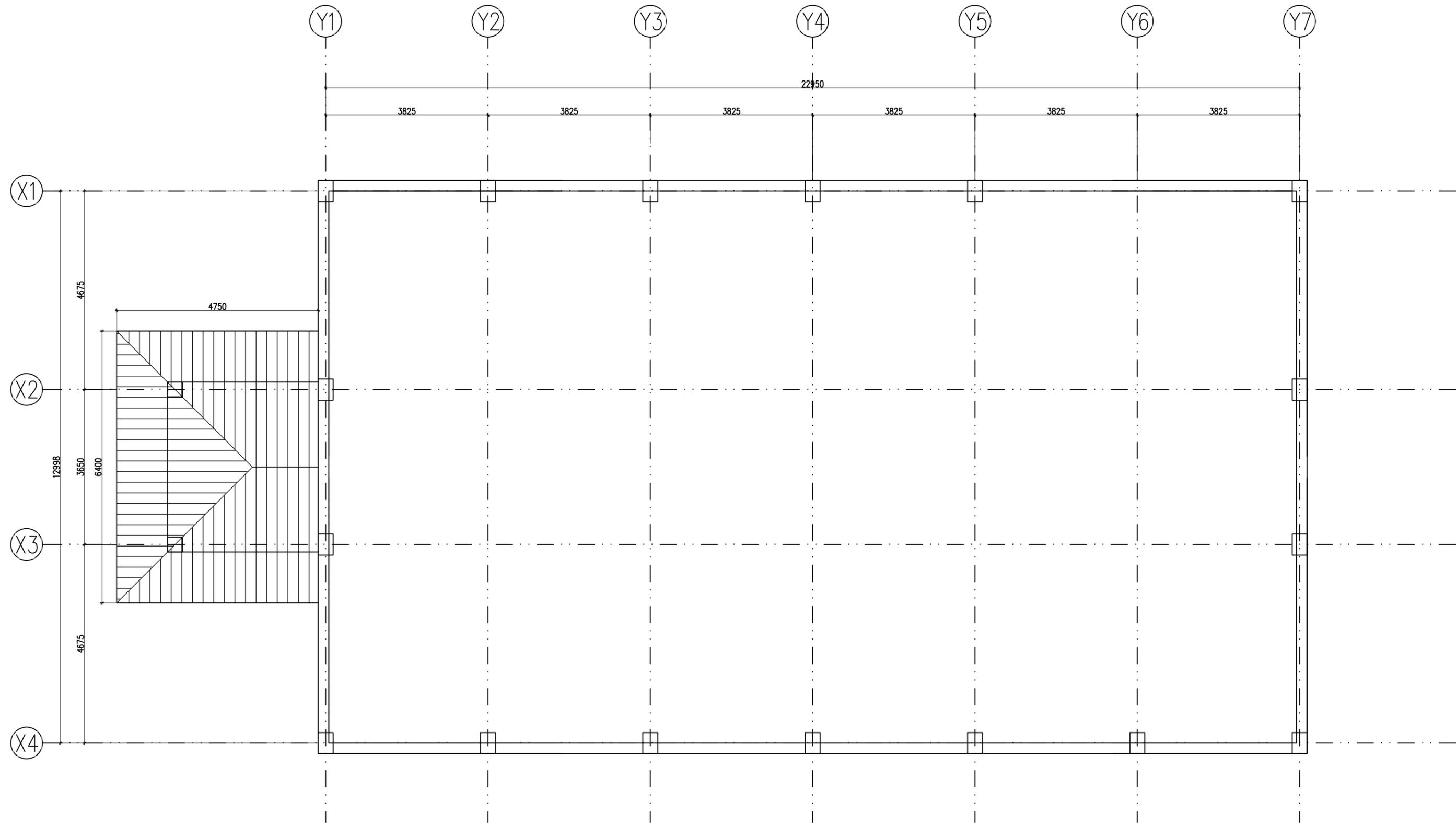


FLOOR PLAN FOR CONTROL ROOM BUILDING

Note: Cable trench & Panel layout will be submitted separately.

OWNER	BHUTAN POWER CORPORATION LTD TRANSMISSION CONSTRUCTION DEPARTMENT		
PROJECT	CONSTRUCTION OF 66/33kV SUBSTATION AT JAMTSHOLING, SIPS00		
TITLE	CONTROL ROOM BUILDING		
DRAWN	D.KINLEY (MPE-CIVIL)	DATE	FEBRUARY 2021
CHECKED		SCALE	NTS
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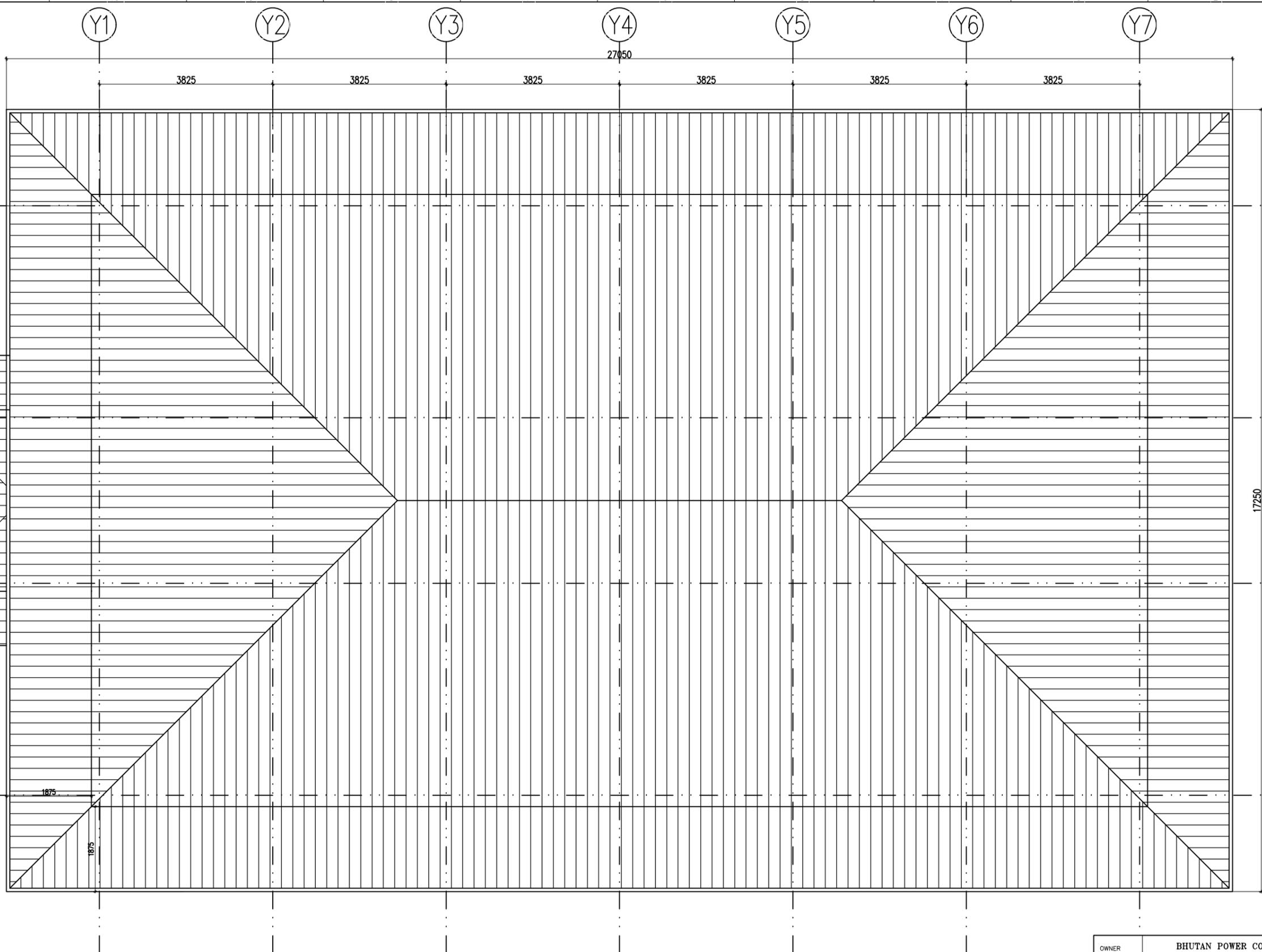
REV. No.	DESCRIPTION	CHECKED	APPROVED	DATE



ROOF SLAB PLAN FOR CONTROL ROOM BUILDING

OWNER	BHUTAN POWER CORPORATION LTD TRANSMISSION CONSTRUCTION DEPARTMENT		
PROJECT	CONSTRUCTION OF 66/33kV SUBSTATION AT JAMTSHOLING, SIPSOO		
TITLE	CONTROL ROOM BUILDING		
DRAWN	D.KINLEY (MPE-CIVIL)	DATE	FEBRUARY 2021
CHECKED		SCALE	NTS
APPROVED		SHEET No: 03	
REV. No.	DESCRIPTION	CHECKED	APPROVED
DRG. No:	66KV SUBSTATION JAMTSHOLING/CONTROLROOM/ARCHITECTURAL/03	DATE	REV: 0

REV. No.	DESCRIPTION	CHECKED	APPROVED	DATE



ROOF PROJECTION= 1875mm
 ROOF ANGLE= 13 DEGREE

ROOF PLAN

OWNER	BHUTAN POWER CORPORATION LTD TRANSMISSION CONSTRUCTION DEPARTMENT		
PROJECT	CONSTRUCTION OF 66/33kV SUBSTATION AT JAMTSHOLING, SIPSOO		
TITLE	CONTROL ROOM BUILDING		
DRAWN	D.KINLEY (MPE-CIVIL)	DATE	FEBRUARY 2021
CHECKED		SCALE	NTS
APPROVED		SHEET No: 04	
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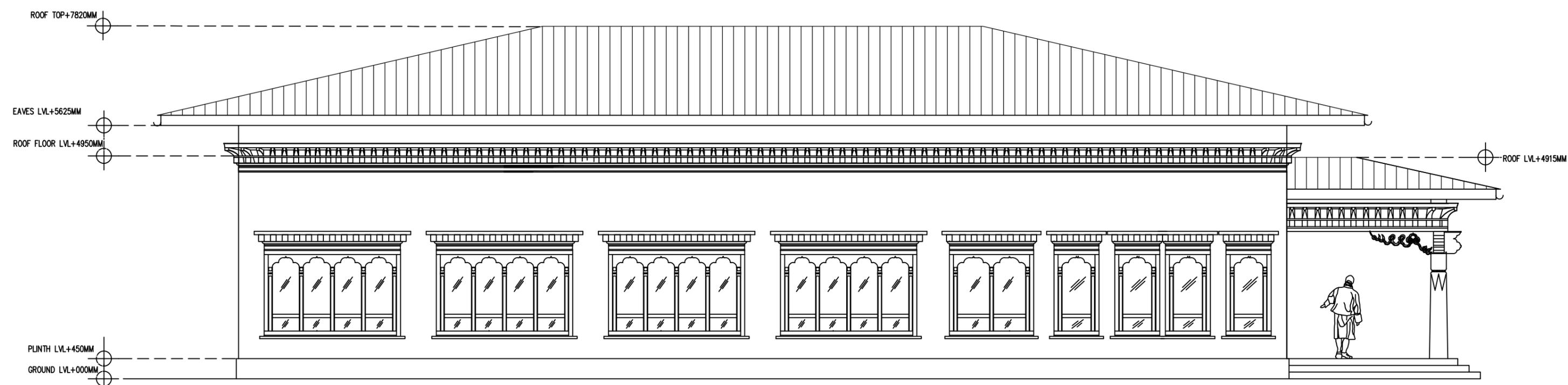


ELEVATION E1

OWNER	BHUTAN POWER CORPORATION LTD TRANSMISSION CONSTRUCTION DEPARTMENT		
PROJECT	CONSTRUCTION OF 66/33kV SUBSTATION AT JAMTSHOLING, SIPSOO		
TITLE	CONTROL ROOM BUILDING		
DRAWN	D.KINLEY (MPE-CIVIL)	DATE	FEBRUARY 2021
CHECKED		SCALE	NTS
APPROVED		SHEET No: 05	
REV. No.	DESCRIPTION	CHECKED	APPROVED DATE
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REV. No.	DESCRIPTION	CHECKED	APPROVED	DATE

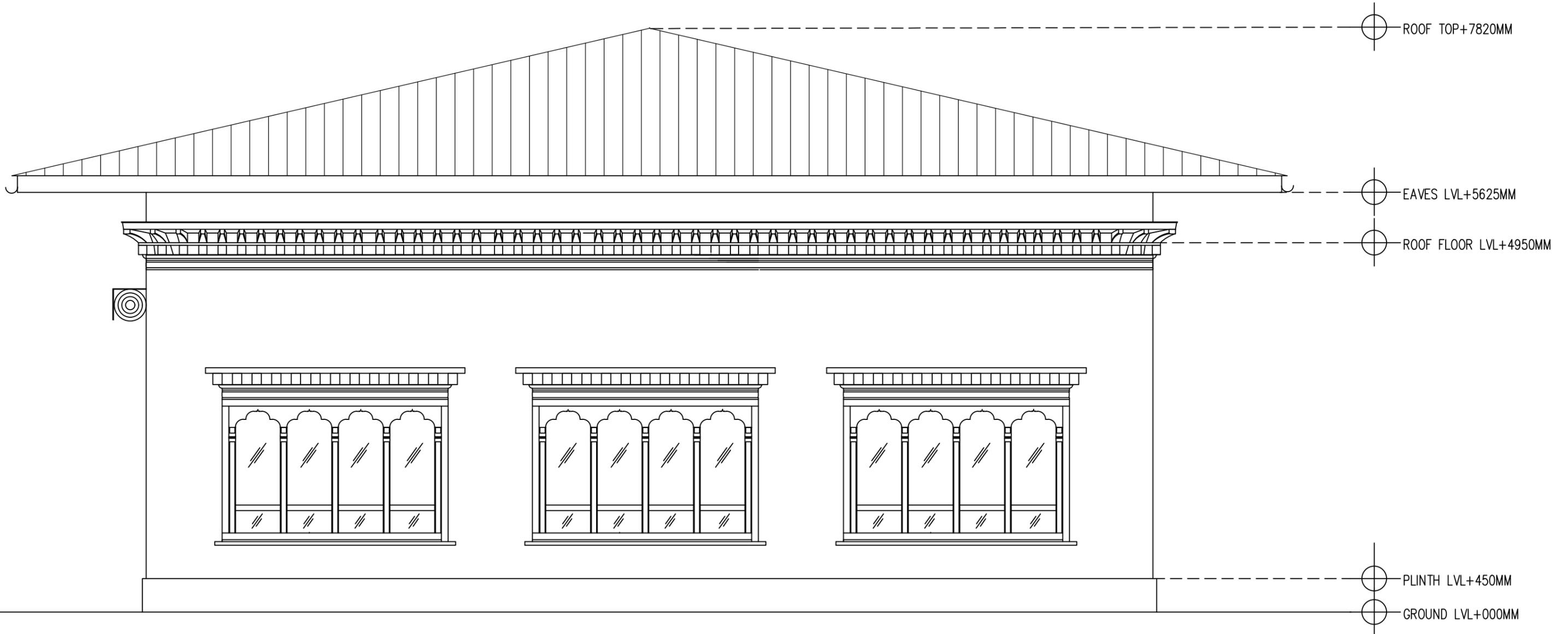
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ELEVATION E2

OWNER	BHUTAN POWER CORPORATION LTD TRANSMISSION CONSTRUCTION DEPARTMENT		
PROJECT	CONSTRUCTION OF 66/33kV SUBSTATION AT JAMTSHOLING, SIPSOO		
TITLE	CONTROL ROOM BUILDING		
DRAWN	D.KINLEY (MPE-CIVIL)	DATE	FEBRUARY 2021
CHECKED		SCALE	NTS
APPROVED		SHEET No: 06	
REV. No.	DESCRIPTION	CHECKED	APPROVED
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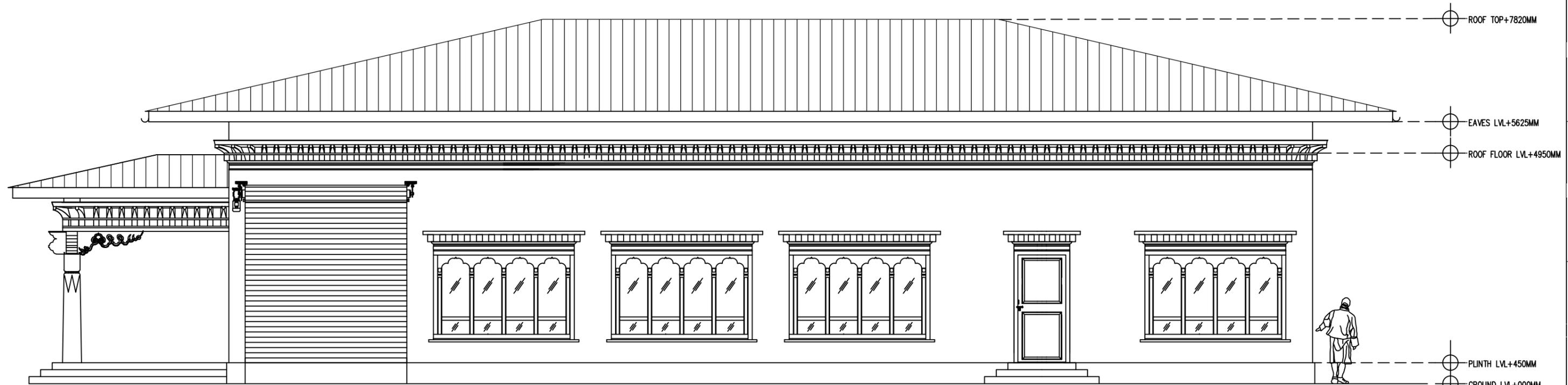
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ELEVATION E3

OWNER	BHUTAN POWER CORPORATION LTD TRANSMISSION CONSTRUCTION DEPARTMENT		
PROJECT	CONSTRUCTION OF 66/33kV SUBSTATION AT JAMTSHOLING, SIPSOO		
TITLE	CONTROL ROOM BUILDING		
DRAWN	D.KINLEY (MPE-CIVIL)	DATE	FEBRUARY 2021
CHECKED		SCALE	NTS
APPROVED		SHEET No: 07	
REV. No.	DESCRIPTION	CHECKED	APPROVED
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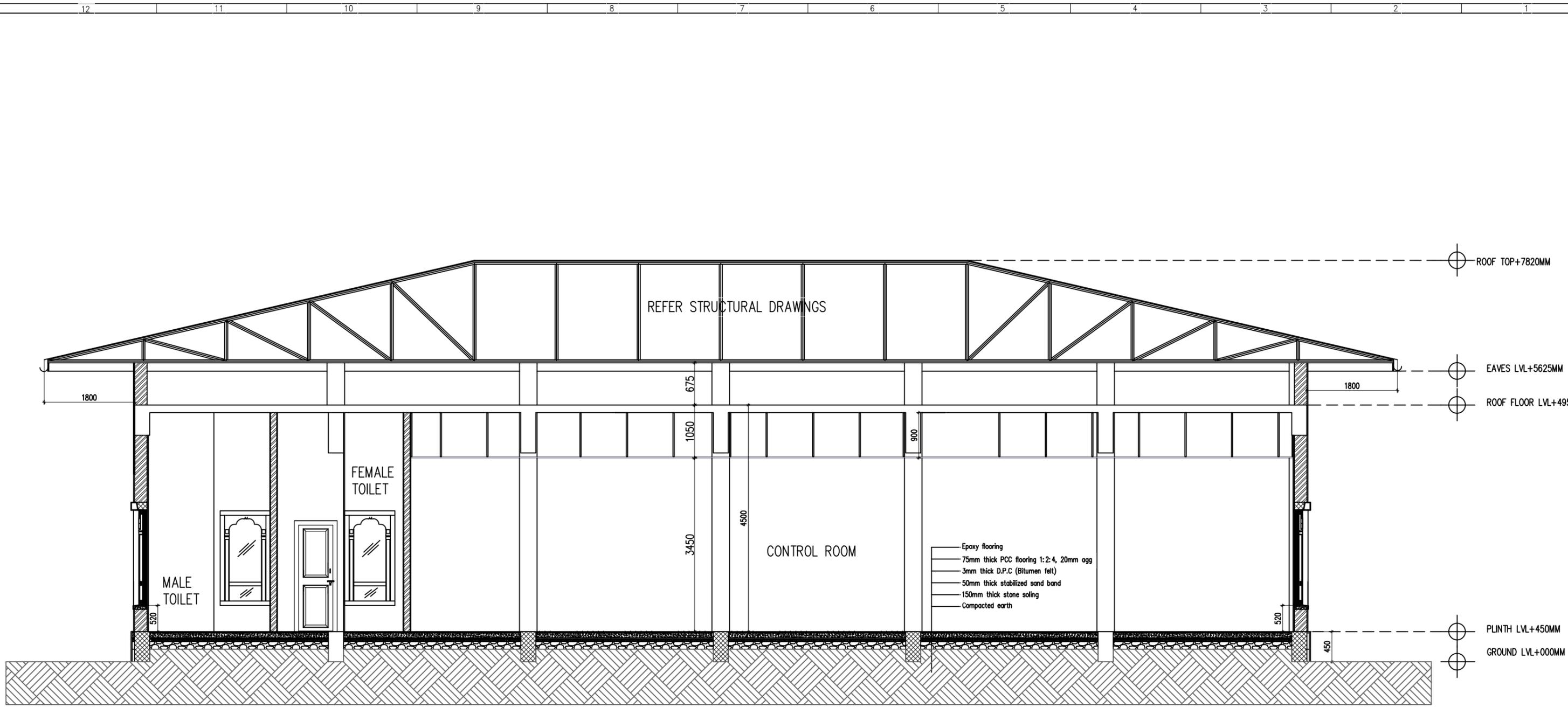
REV. No.	DESCRIPTION	CHECKED	APPROVED	DATE



ELEVATION E4

OWNER	BHUTAN POWER CORPORATION LTD TRANSMISSION CONSTRUCTION DEPARTMENT		
PROJECT	CONSTRUCTION OF 66/33kV SUBSTATION AT JAMTSHOLING, SIPSOO		
TITLE	CONTROL ROOM BUILDING		
DRAWN	D.KINLEY (MPE-CIVIL)	DATE	FEBRUARY 2021
CHECKED		SCALE	NTS
APPROVED		SHEET No: 08	
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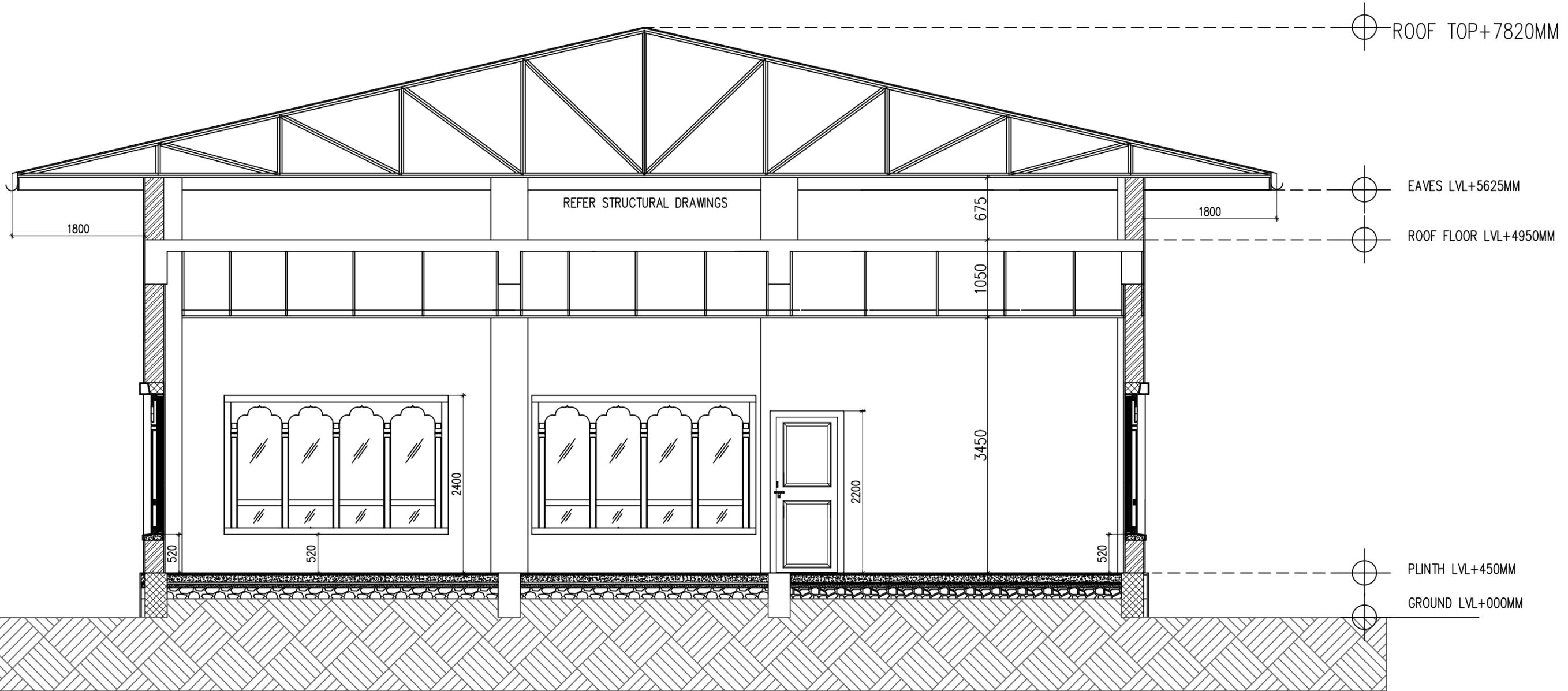
REV. No.	DESCRIPTION	CHECKED	APPROVED	DATE



SECTION X-X

OWNER	BHUTAN POWER CORPORATION LTD TRANSMISSION CONSTRUCTION DEPARTMENT		
PROJECT	CONSTRUCTION OF 66/33kV SUBSTATION AT JAMTSHOLING, SIPSOO		
TITLE	CONTROL ROOM BUILDING		
DRAWN	D.KINLEY (MPE-CIVIL)	DATE	FEBRUARY 2021
CHECKED		SCALE	NTS
APPROVED		SHEET No: 09	
REV. No.	DESCRIPTION	CHECKED	APPROVED
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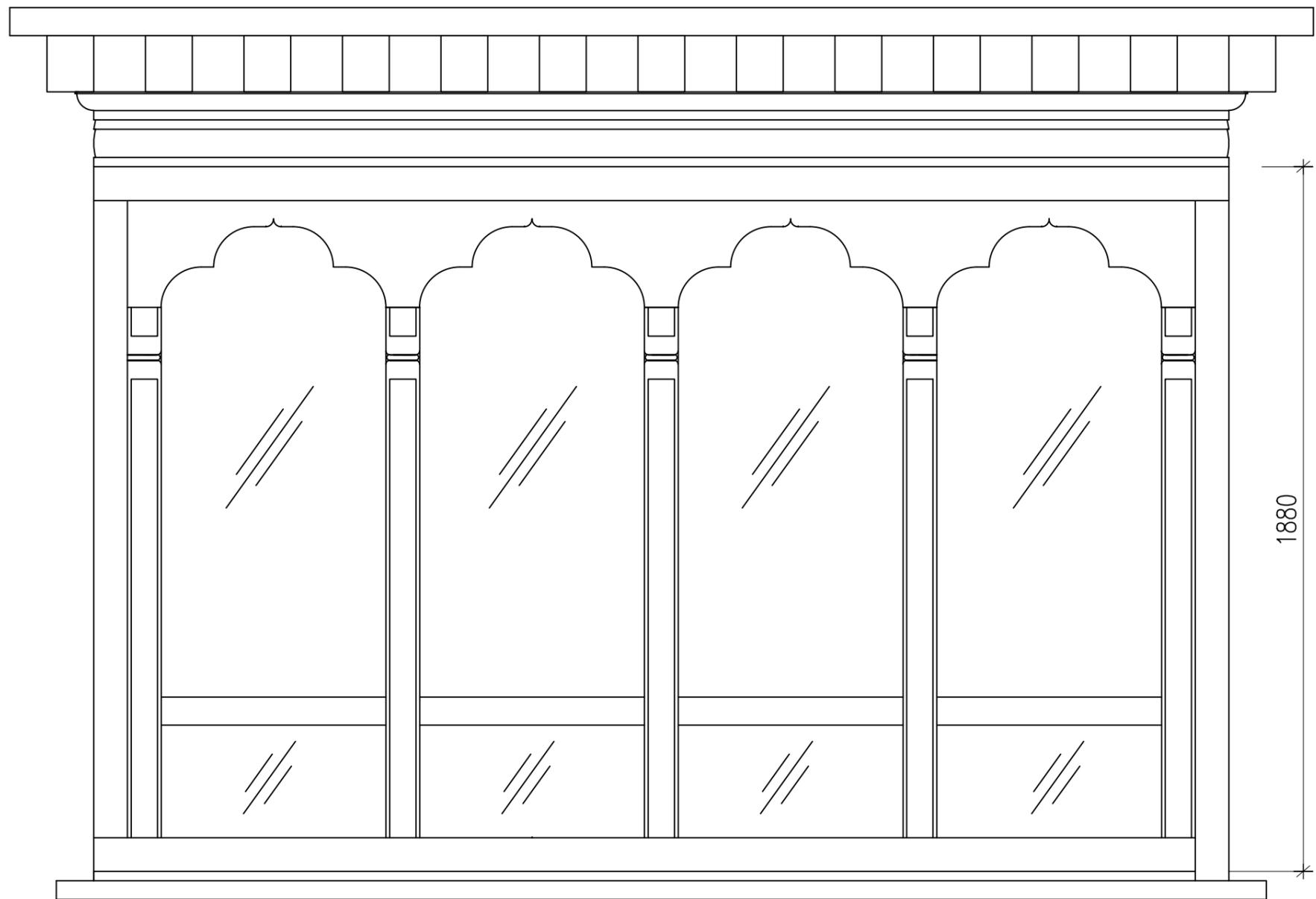
REV. No.	DESCRIPTION	CHECKED	APPROVED	DATE



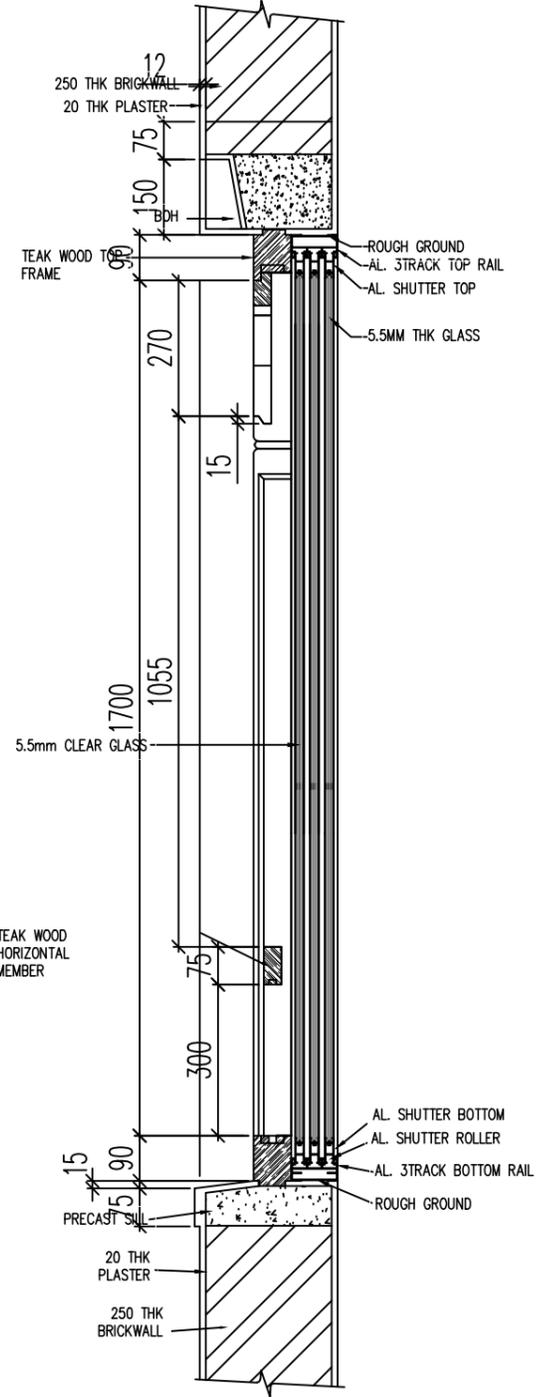
SECTION Y-Y

OWNER	BHUTAN POWER CORPORATION LTD TRANSMISSION CONSTRUCTION DEPARTMENT		
PROJECT	CONSTRUCTION OF 66/33kV SUBSTATION AT JAMTSHOLING, SIPSOO		
TITLE	CONTROL ROOM BUILDING		
DRAWN	D.KINLEY (MPE-CIVL)	DATE	FEBRUARY 2021
CHECKED		SCALE	NTS
APPROVED		SHEET No: 10	
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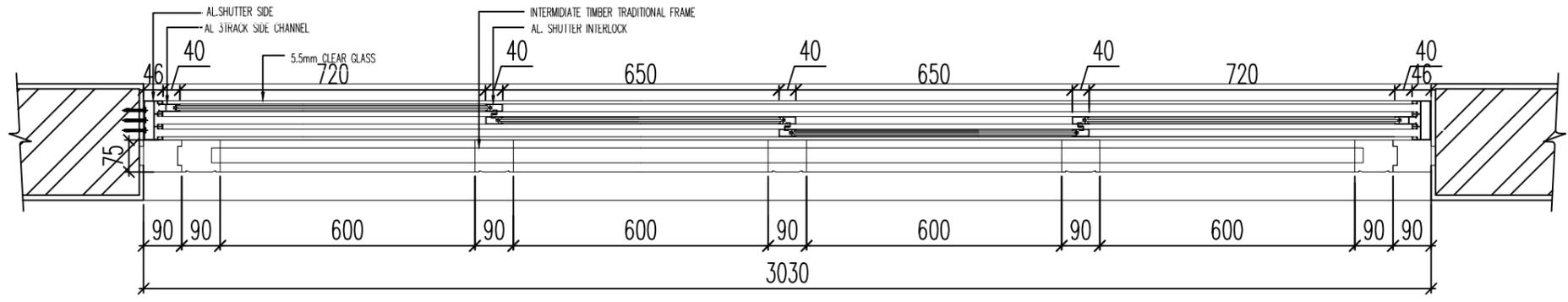
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W1

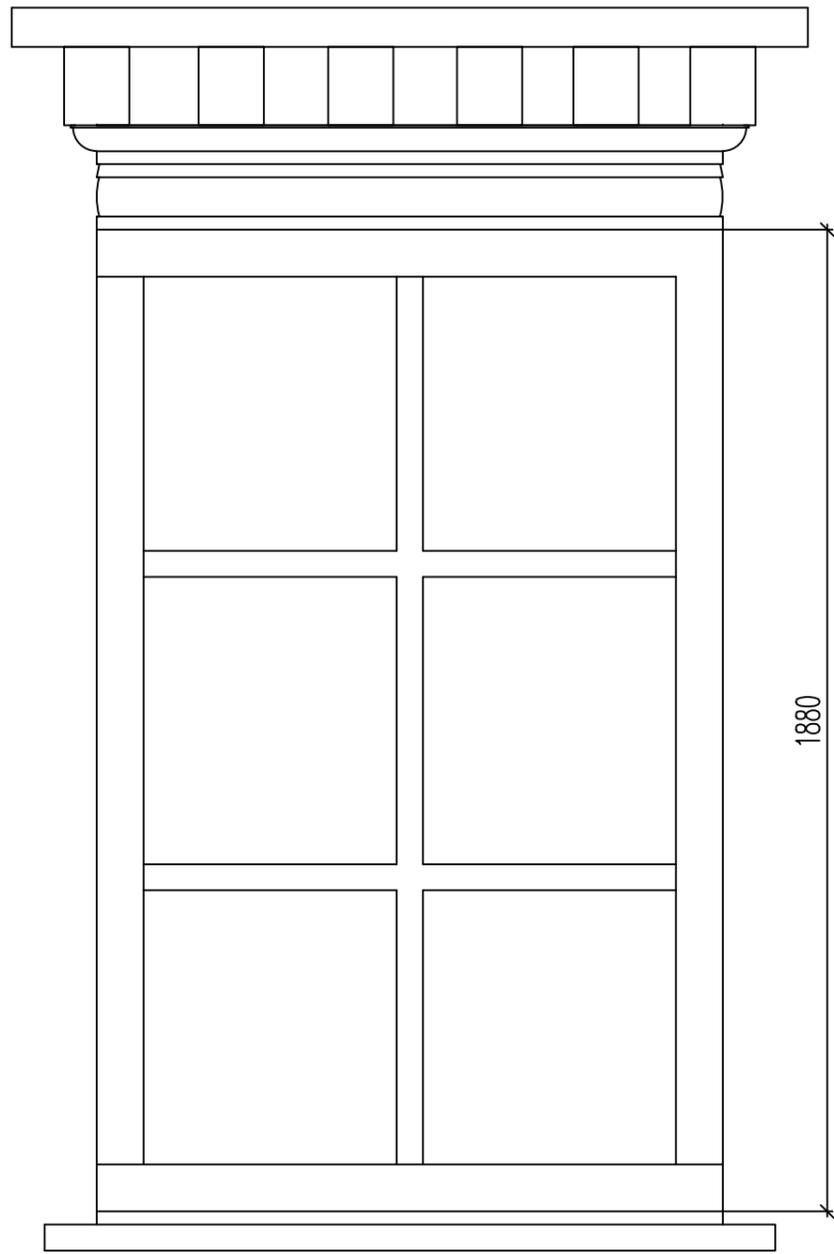


SECTION Y-Y

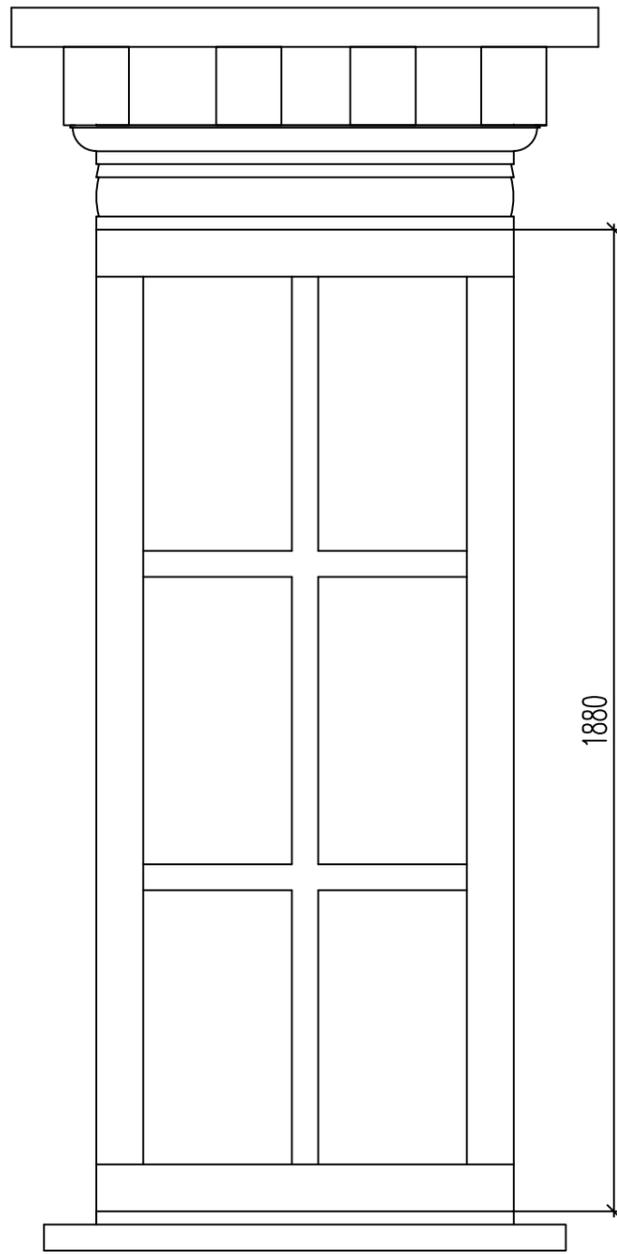


SECTION X-X

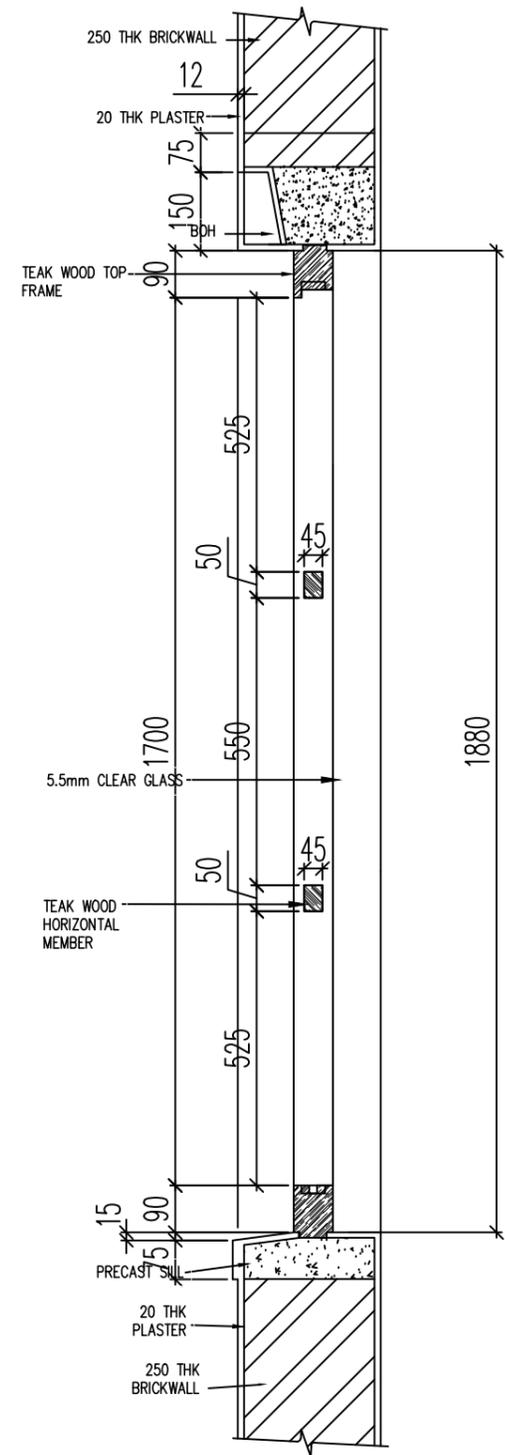
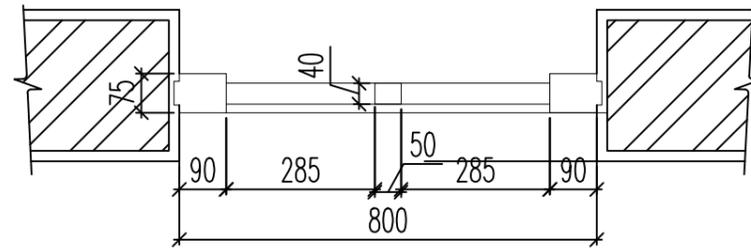
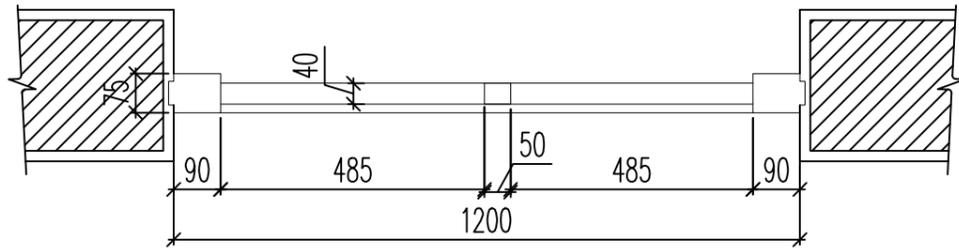
OWNER	BHUTAN POWER CORPORATION LTD TRANSMISSION CONSTRUCTION DEPARTMENT		
PROJECT	CONSTRUCTION OF 66/33kV SUBSTATION AT JAMTSHOLING, SIPSOO		
TITLE	CONTROL ROOM BUILDING		
DRAWN	D.KINLEY (MPE-CIVIL)	DATE	FEBRUARY 2021
CHECKED		SCALE	NTS
APPROVED		SHEET No: 11	
REV. No.	DESCRIPTION	CHECKED	APPROVED
DRG. No:	66KV SUBSTATION JAMTSHOLING/CONTROLROOM/ARCHITECTURAL/11	REV:	0



W2

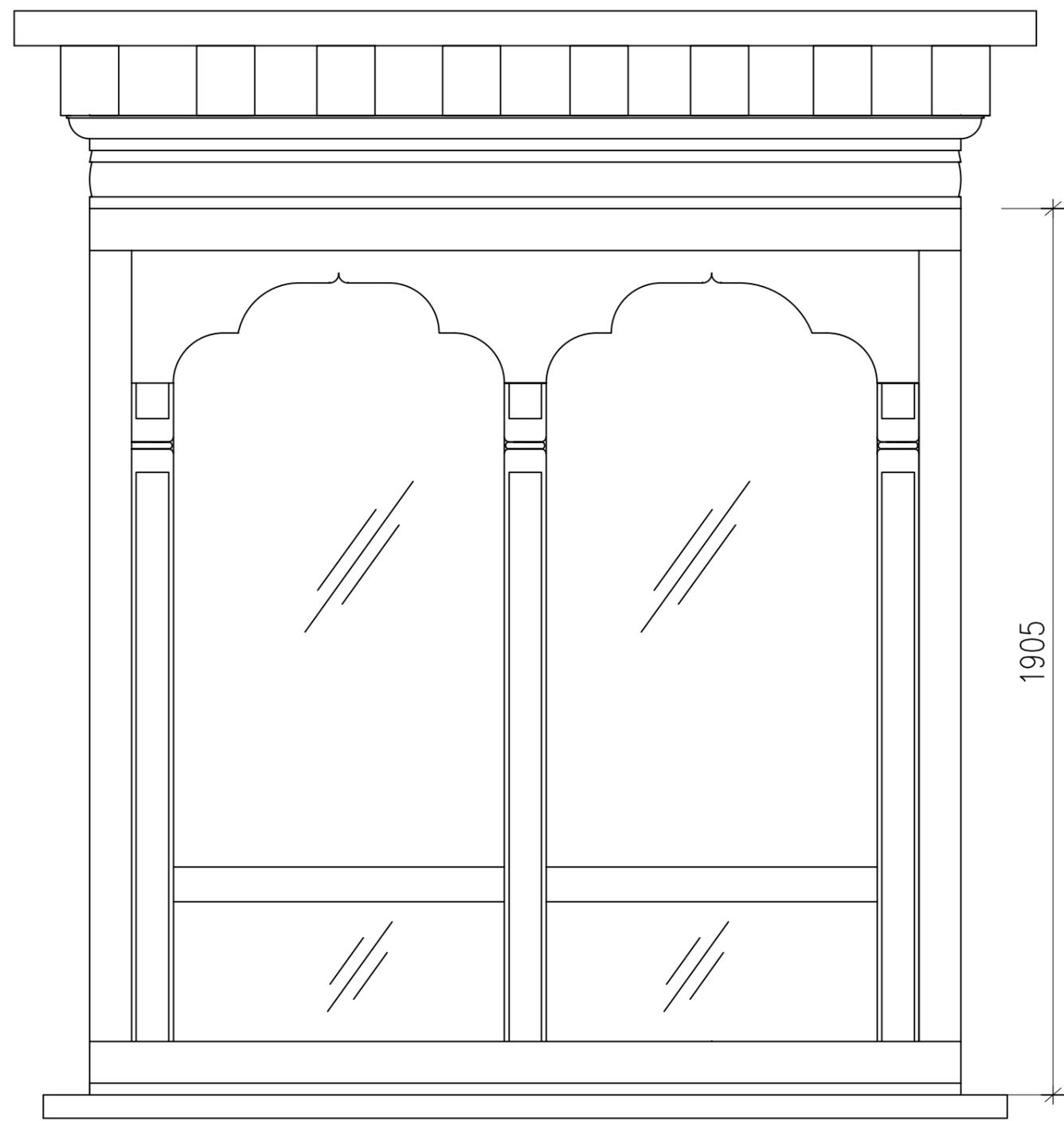


W4

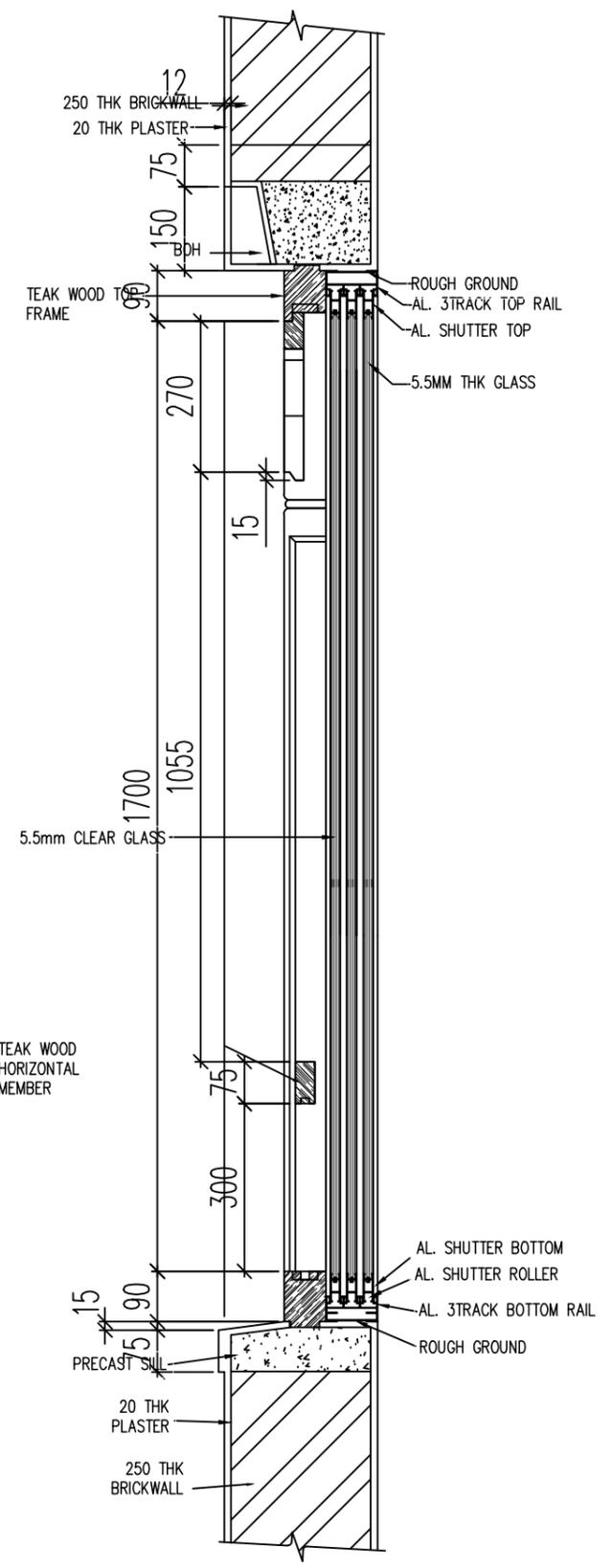
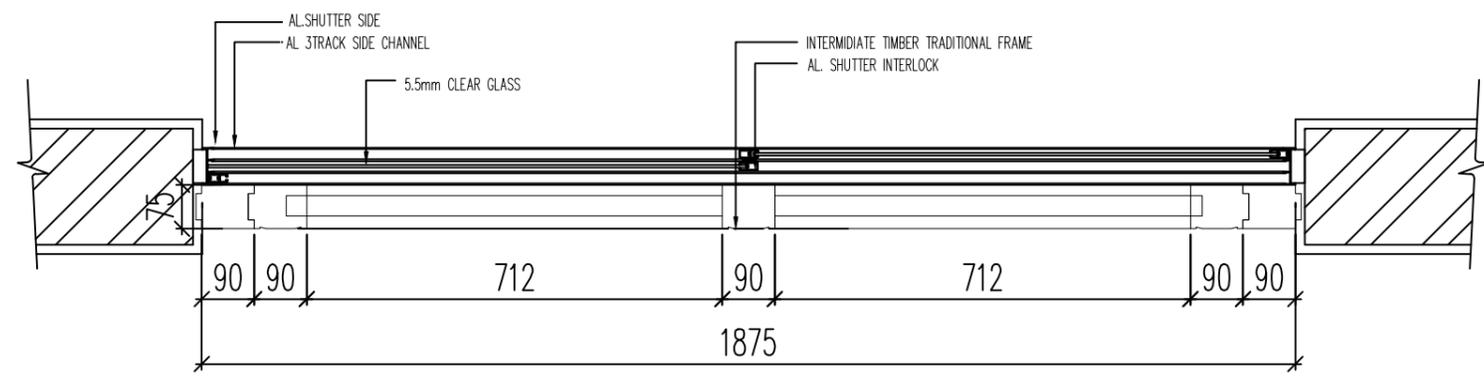


REV. No.	DESCRIPTION	CHECKED	APPROVED	DATE

OWNER	BHUTAN POWER CORPORATION LTD TRANSMISSION CONSTRUCTION DEPARTMENT		
PROJECT	CONSTRUCTION OF 66/33kV SUBSTATION AT JAMTSHOLING, SIPSOO		
TITLE	CONTROL ROOM BUILDING		
DRAWN	D.KINLEY (MPE-CIVIL)	DATE	FEBRUARY 2021
CHECKED		SCALE	NTS
APPROVED		SHEET No: 12	
DRG. No:	66KV SUBSTATION JAMTSHOLING/CONTROLROOM/ARCHITECTURAL/12		REV: 0

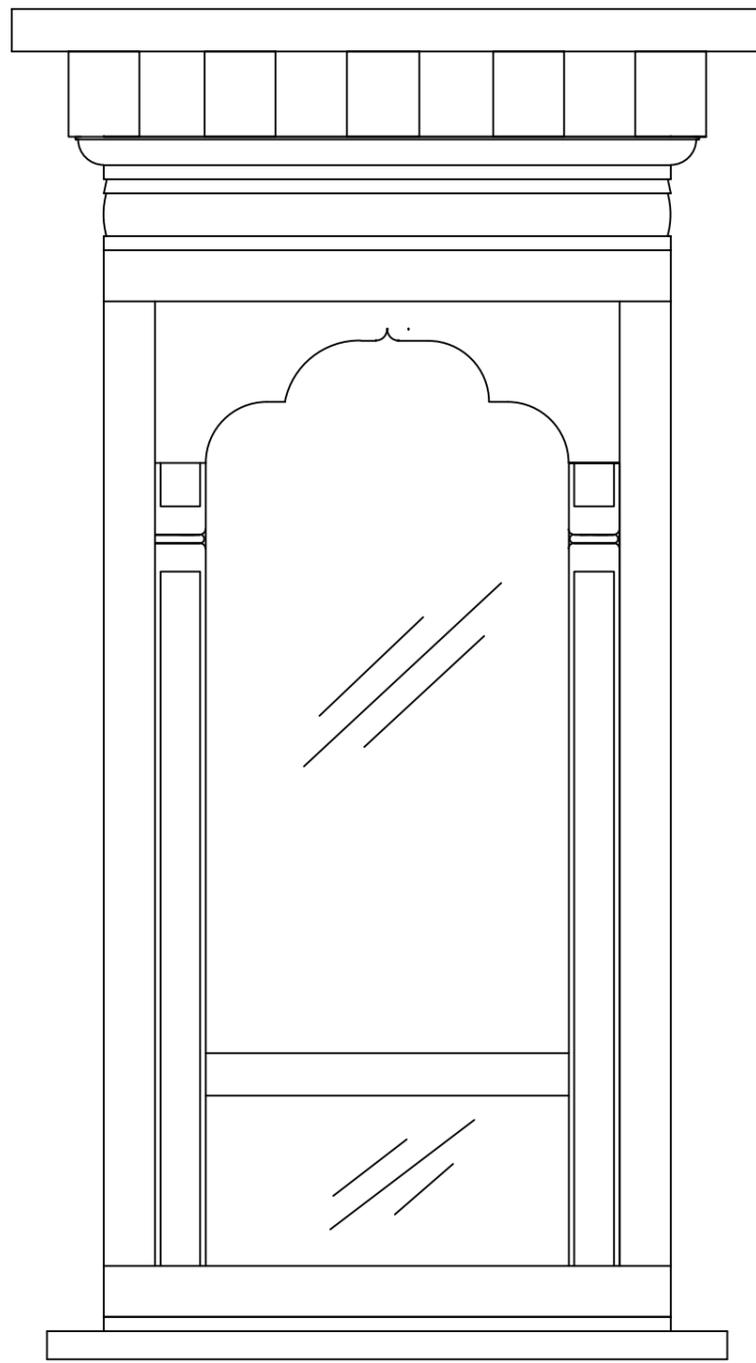


W3

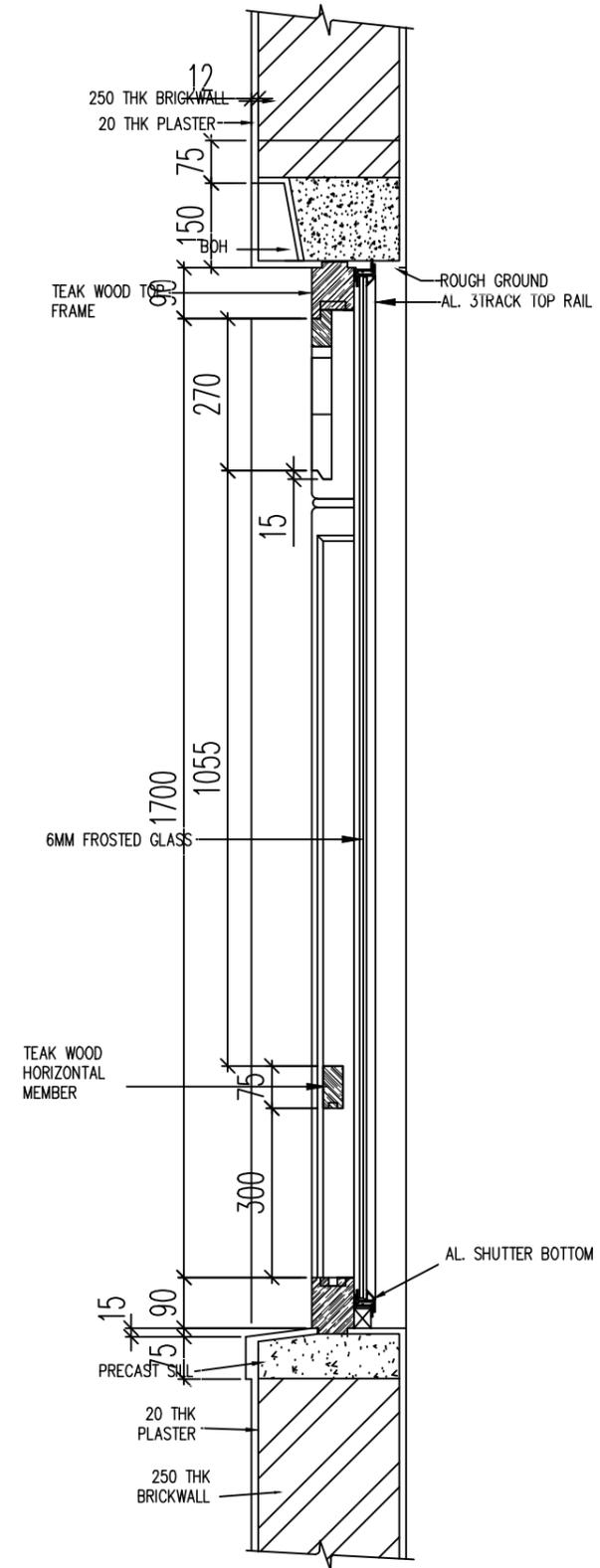
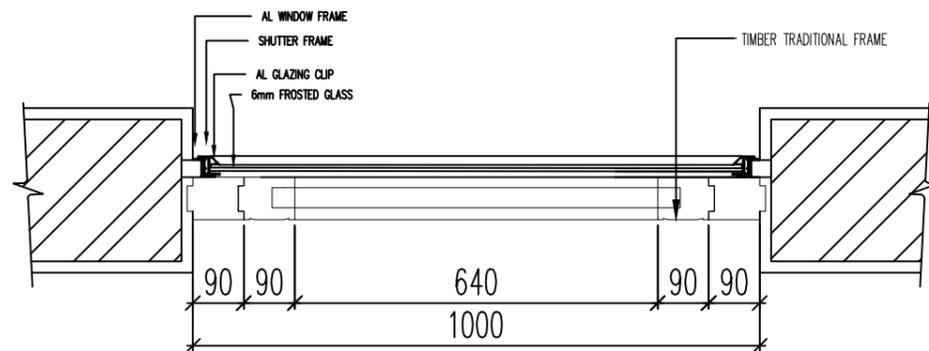


SECTION Y-Y

OWNER	BHUTAN POWER CORPORATION LTD TRANSMISSION CONSTRUCTION DEPARTMENT		
PROJECT	CONSTRUCTION OF 66/33kV SUBSTATION AT JAMTSHOLING, SIPSOO		
TITLE	CONTROL ROOM BUILDING		
DRAWN	D.KINLEY (MPE-CIVIL)	DATE	FEBRUARY 2021
CHECKED		SCALE	NTS
APPROVED		SHEET No:	13
REV. No.	DESCRIPTION	CHECKED	APPROVED
DRG. No:	66KV SUBSTATION JAMTSHOLING/CONTROLROOM/ARCHITECTURAL/13	REV:	0



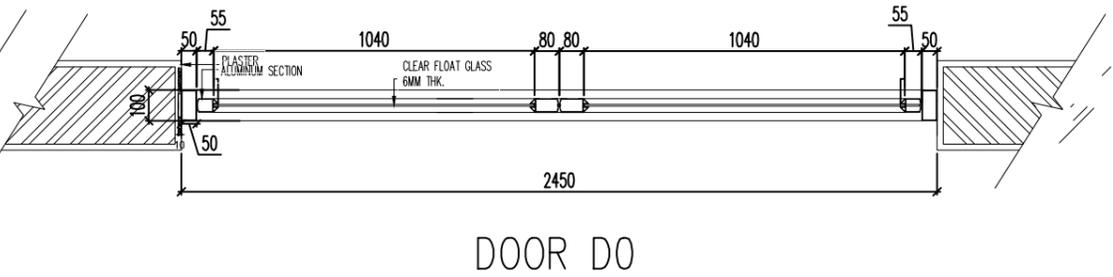
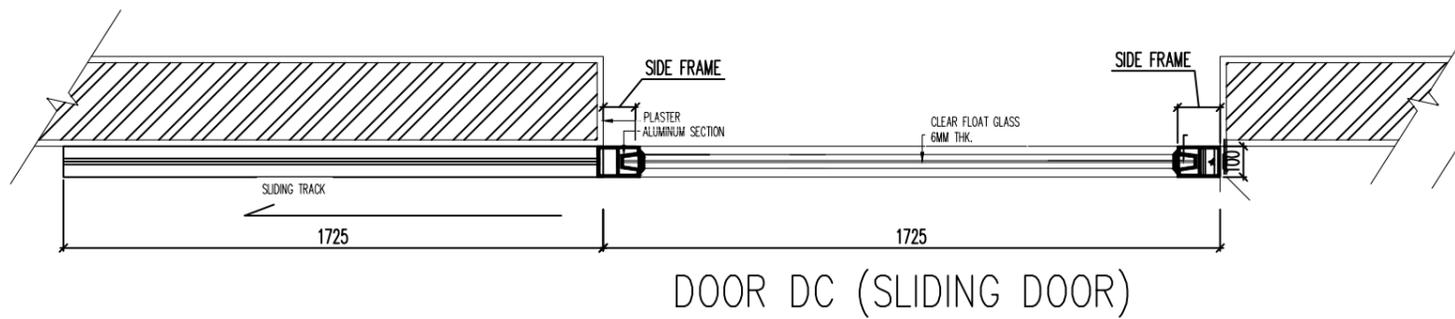
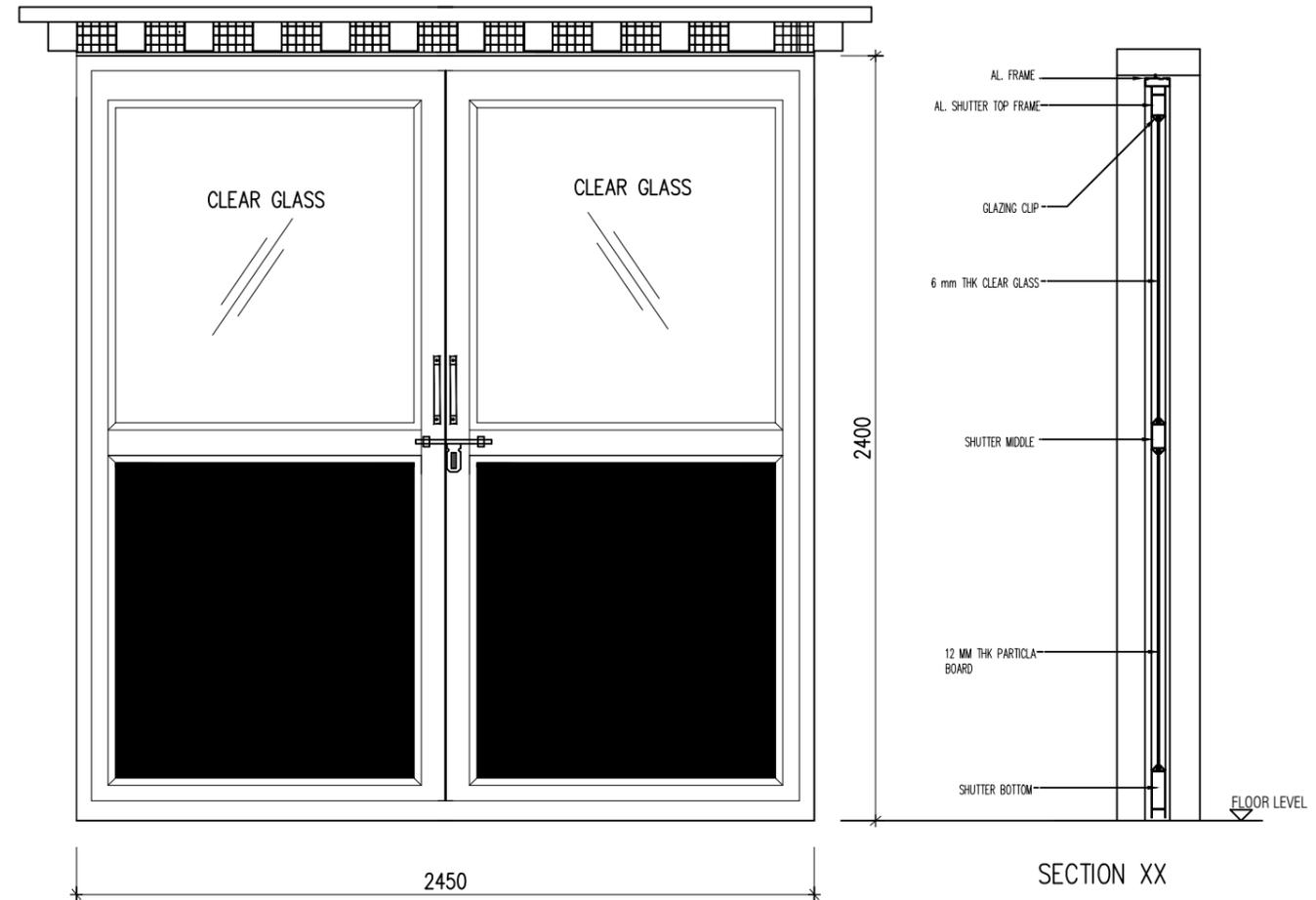
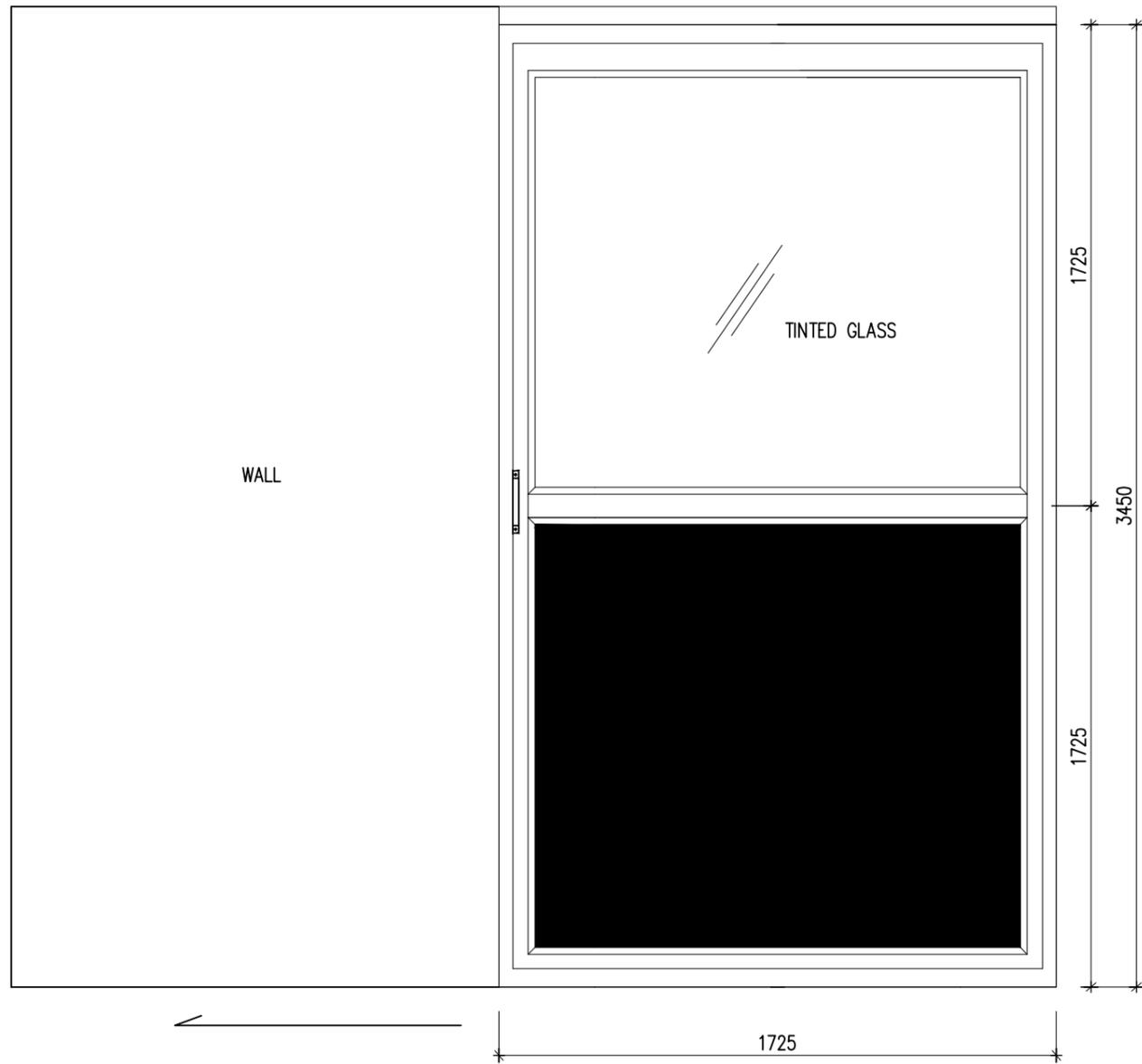
V1



SECTION Y-Y

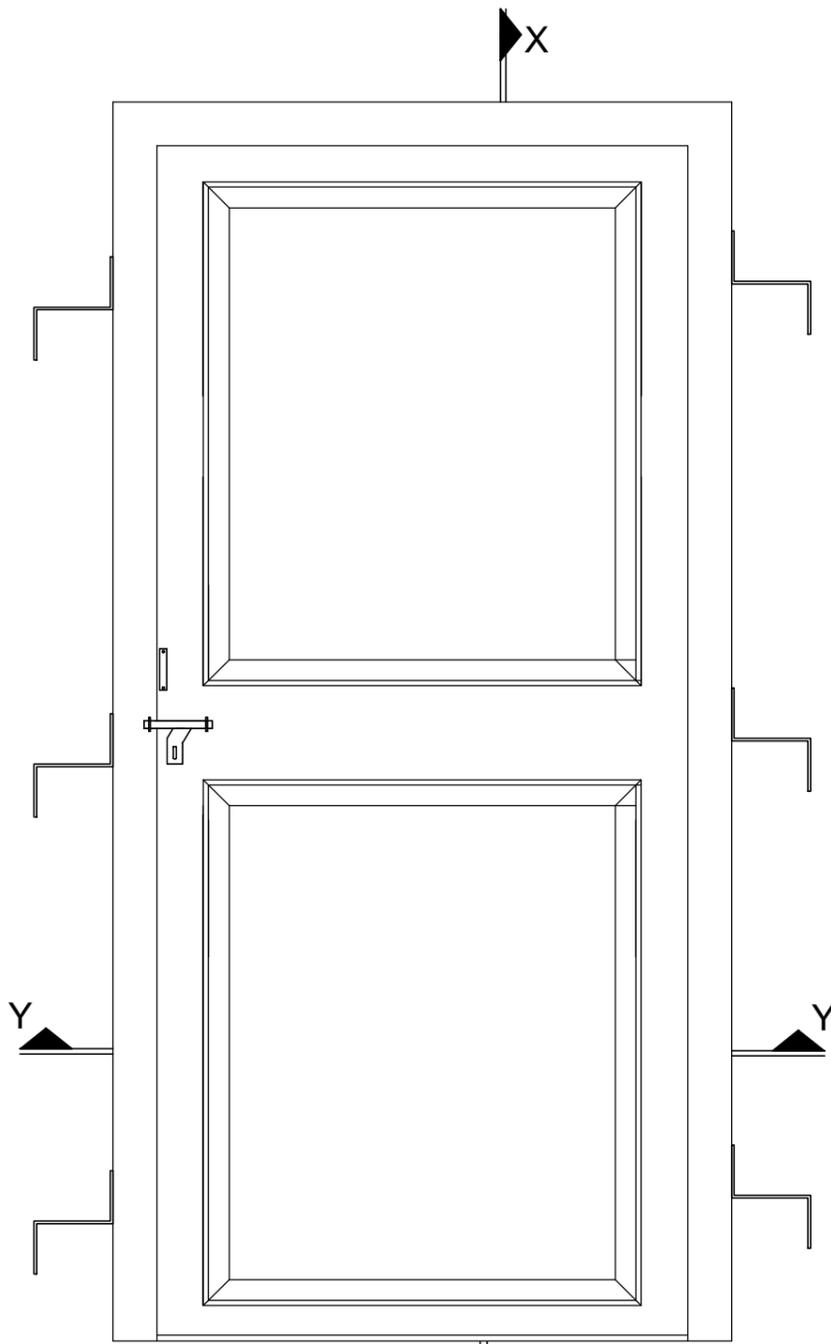
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OWNER	BHUTAN POWER CORPORATION LTD TRANSMISSION CONSTRUCTION DEPARTMENT			
PROJECT	CONSTRUCTION OF 66/33kV SUBSTATION AT JAMTSHOLING, SIPSOO			
TITLE	CONTROL ROOM BUILDING			
DRAWN	D.KINLEY (MPE-CIVIL)	DATE	FEBRUARY 2021	
CHECKED		SCALE	NTS	
APPROVED		SHEET No: 14		
DRG. No:	66KV SUBSTATION JAMTSHOLING/CONTROLROOM/ARCHITECTURAL/14			REV: 0

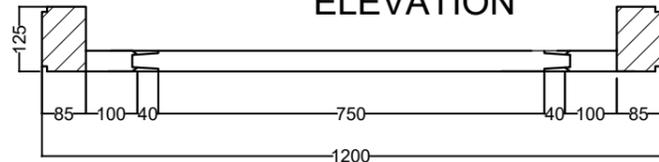


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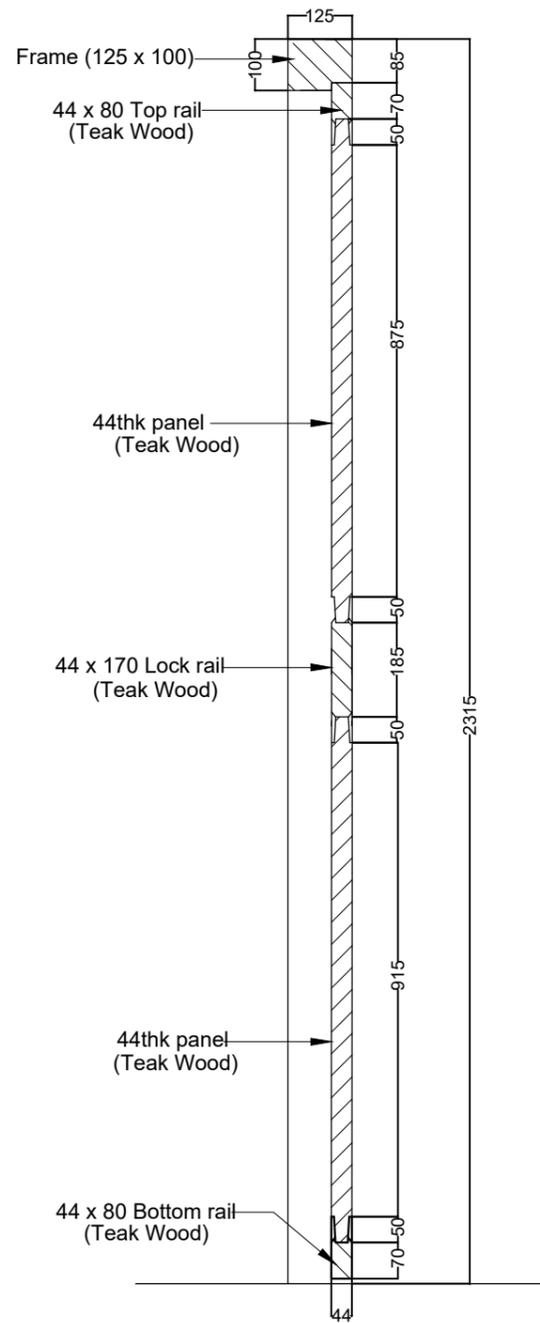
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PROJECT	CONSTRUCTION OF 66/33kV SUBSTATION AT JAMTSHOLING, SIPSOO			
TITLE	CONTROL ROOM BUILDING			
DRAWN	D.KINLEY (MPE-CIVIL)	DATE	FEBRUARY 2021	
CHECKED		SCALE	NTS	
APPROVED		SHEET No: 15		
DRG. No:	66KV SUBSTATION JAMTSHOLING/CONTROLROOM/ARCHITECTURAL/15			REV: 0



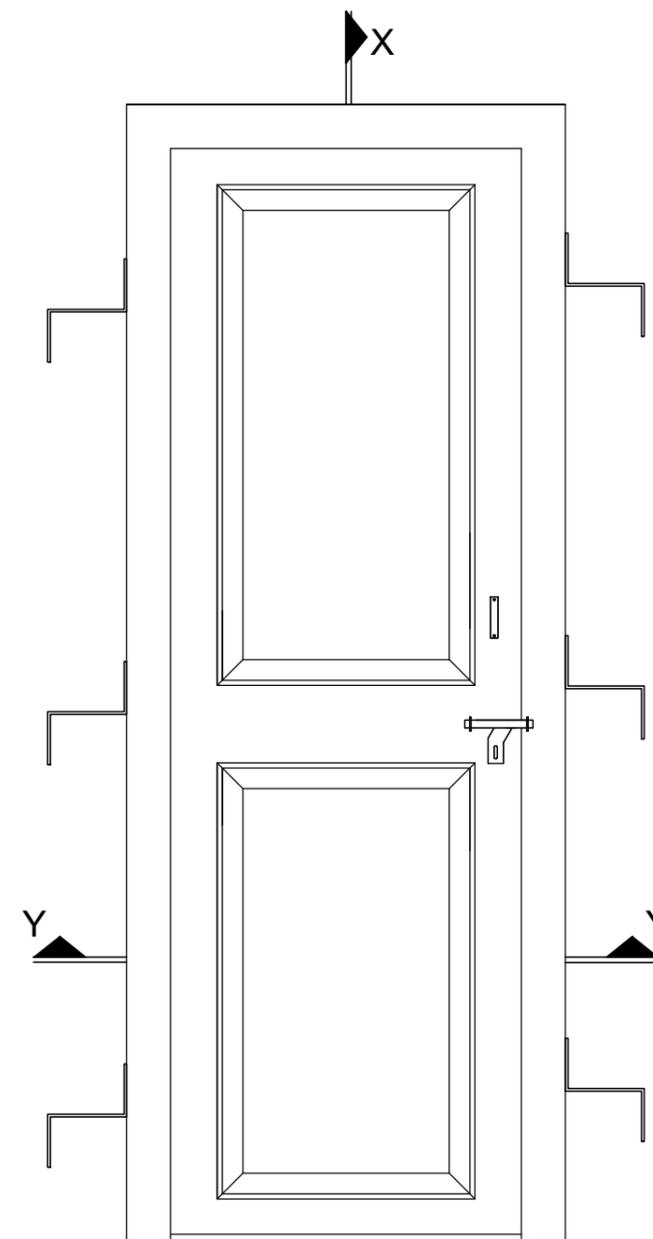
ELEVATION



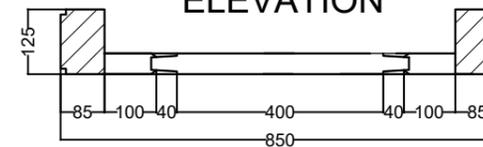
SECTION Y-Y
PLAN
D2(1200 x 2325 mm)



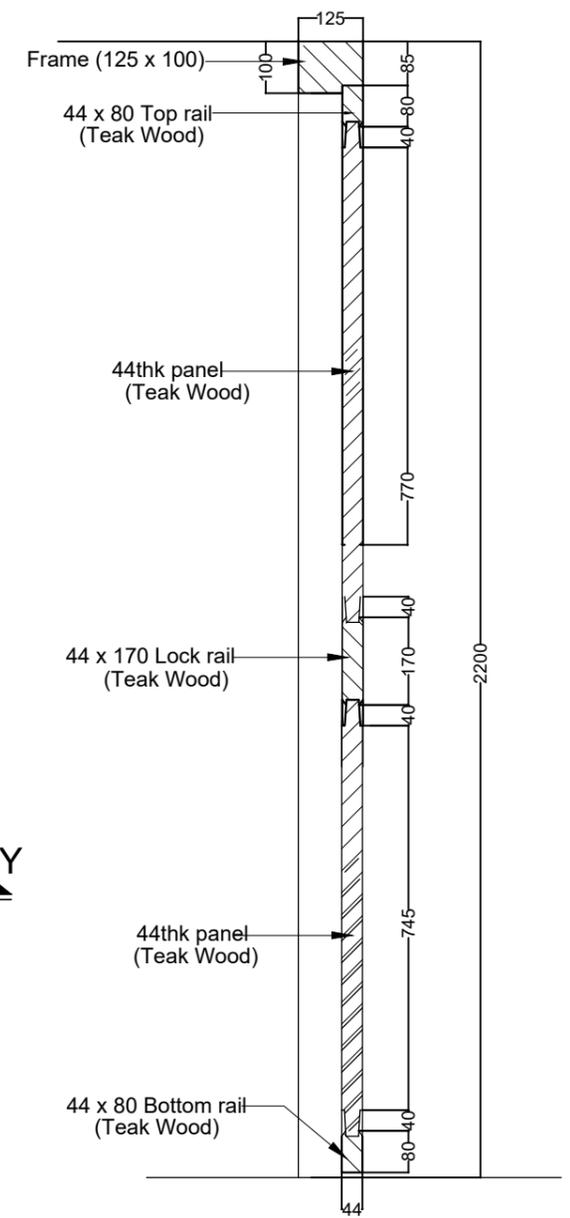
SECTION X-X



ELEVATION



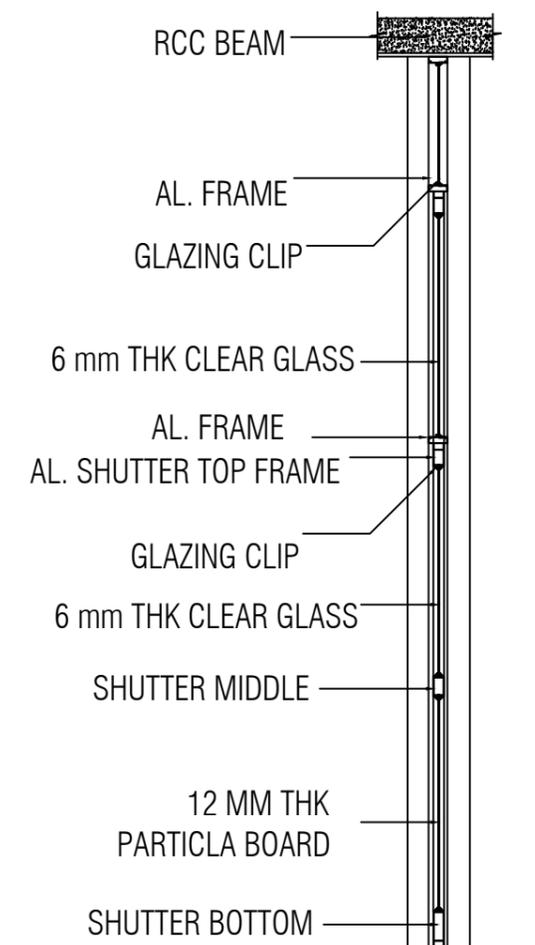
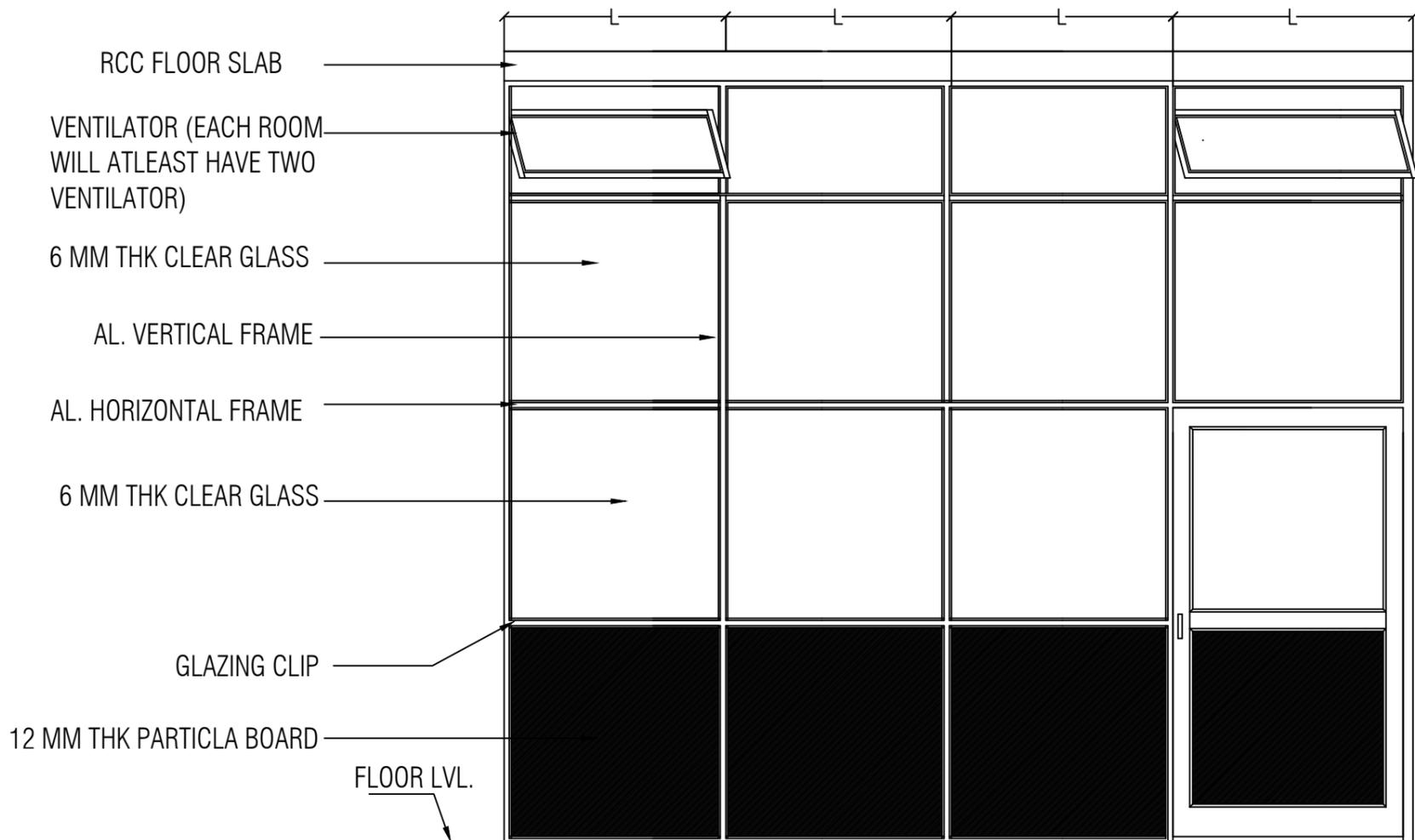
SECTION Y-Y
PLAN
D3 (2200 x 850mm)



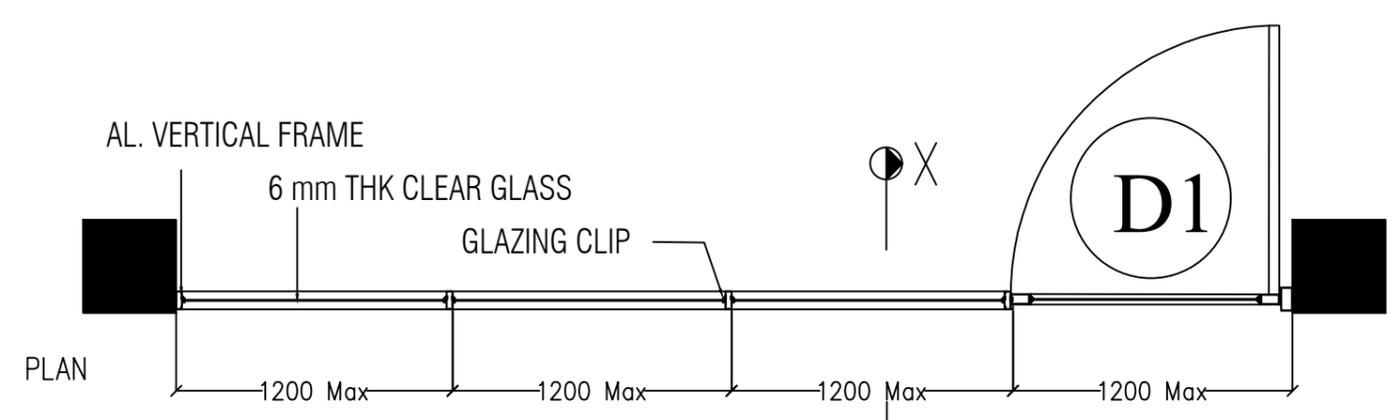
SECTION X-X

REV. No.	DESCRIPTION	CHECKED	APPROVED	DATE

OWNER	BHUTAN POWER CORPORATION LTD TRANSMISSION CONSTRUCTION DEPARTMENT		
PROJECT	CONSTRUCTION OF 66/33kV SUBSTATION AT JAMTSHOLING, SIPS00		
TITLE	CONTROL ROOM BUILDING		
DRAWN	D.KINLEY (MPE-CIVIL)	DATE	FEBRUARY 2021
CHECKED		SCALE	NTS
APPROVED		SHEET No: 16	
DRG. No:	66KV SUBSTATION JAMTSHOLING/CONTROLROOM/ARCHITECTURAL/16	REV:	0



SECTION XX

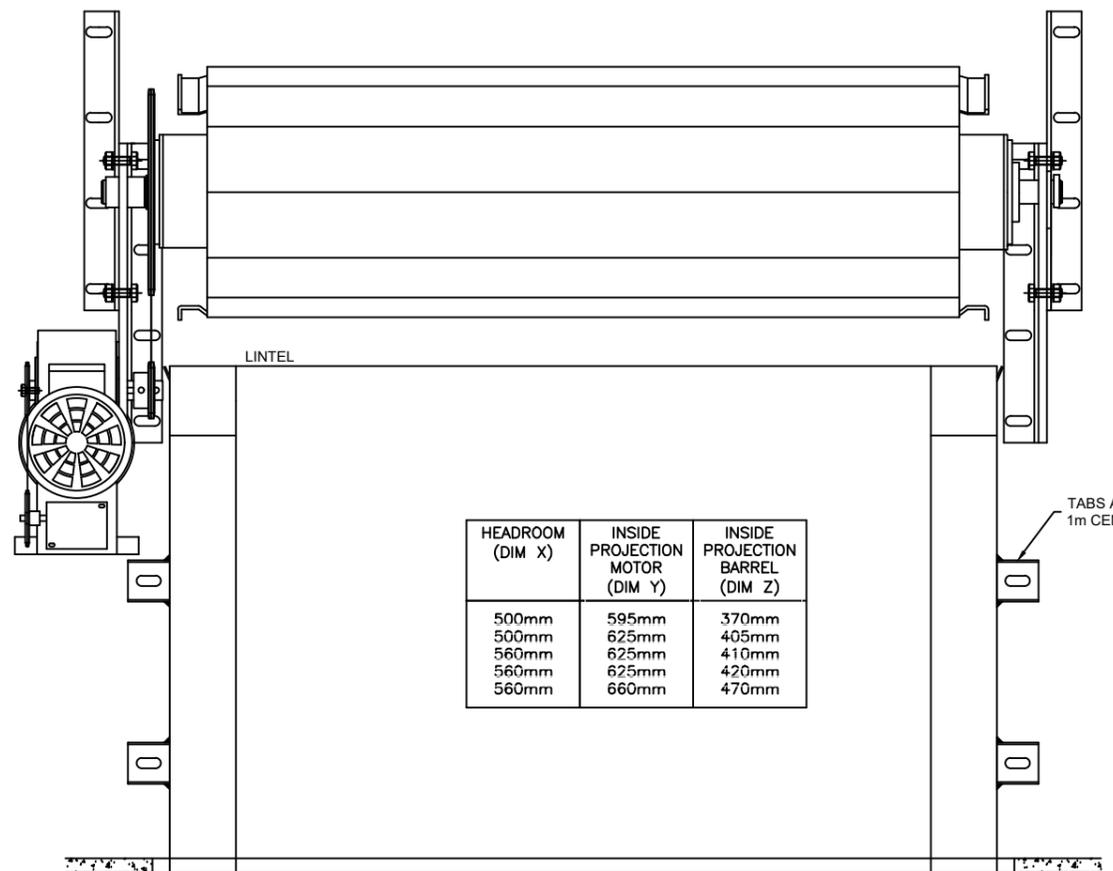
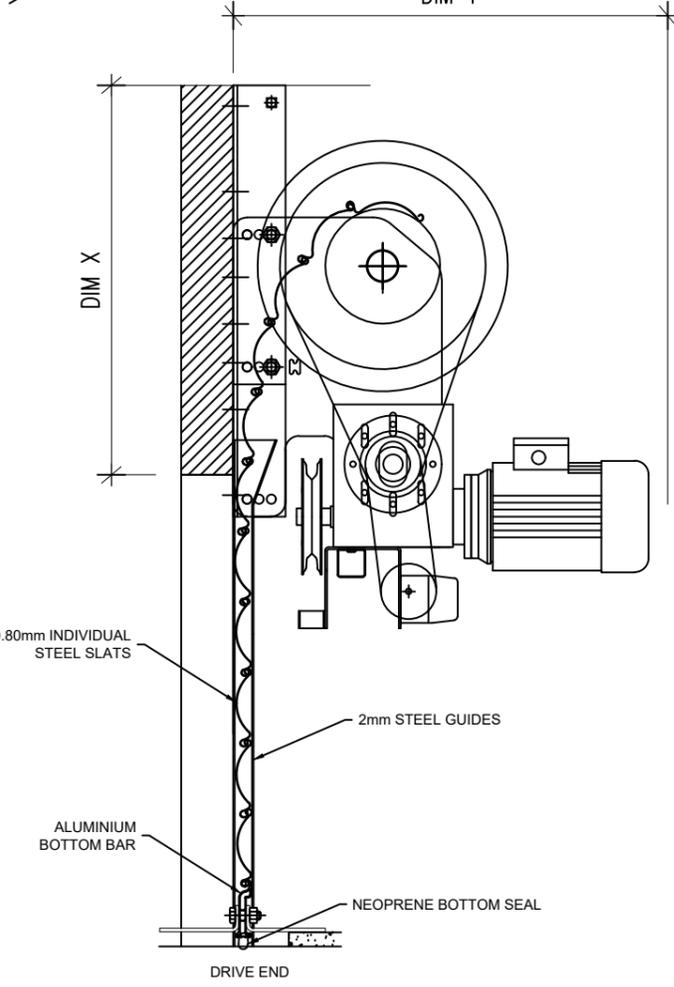
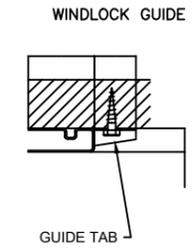
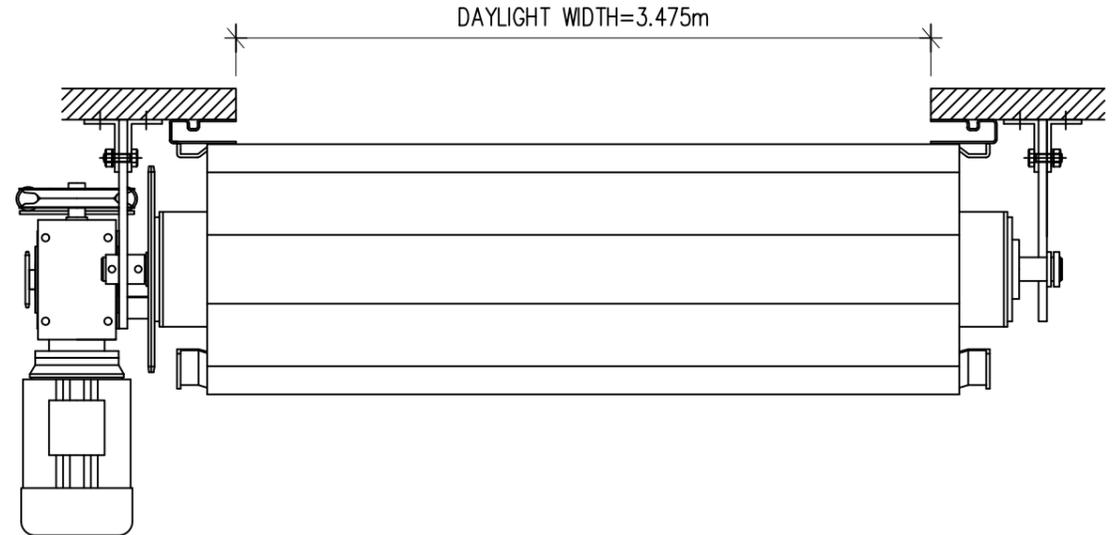
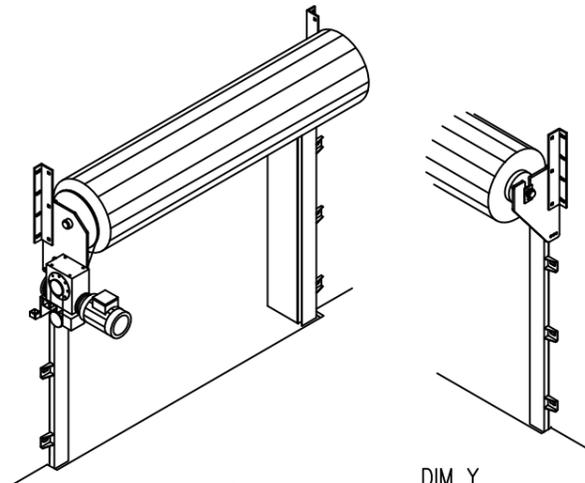


TYPICAL DETAIL FOR INTERIOR ALUMINUM-GLAZING PARTITION

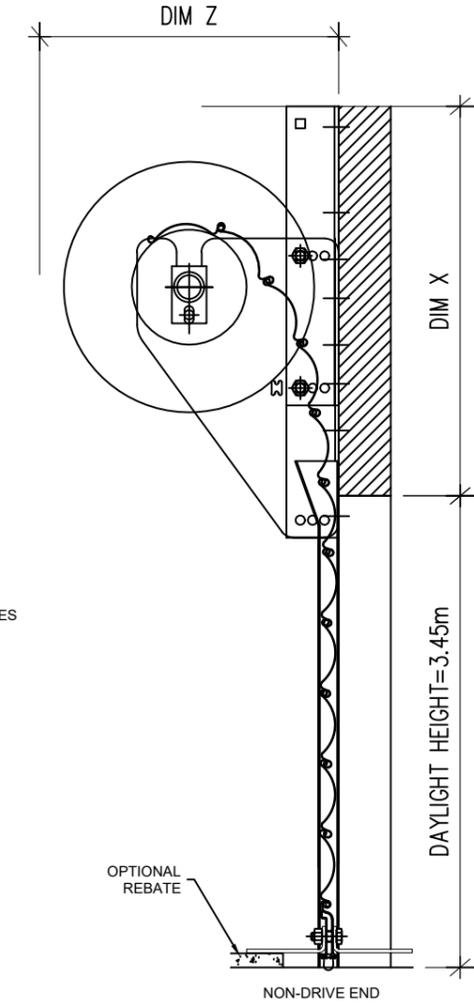
NOTE. ALL INTERIOR AL. GLAZING PARTITION FOLLOW THE SAME DETAIL

OWNER	BHUTAN POWER CORPORATION LTD TRANSMISSION CONSTRUCTION DEPARTMENT		
PROJECT	CONSTRUCTION OF 66/33kV SUBSTATION AT JAMTSHOLING, SIPSOO		
TITLE	CONTROL ROOM BUILDING		
DRAWN	D.KINLEY (MPE-CIVIL)	DATE	FEBRUARY 2021
CHECKED		SCALE	NTS
APPROVED		SHEET No: 17	
DRG. No:	66KV SUBSTATION JAMTSHOLING/CONTROLROOM/ARCHITECTURAL/17		REV: 0

REV. No.	DESCRIPTION	CHECKED	APPROVED	DATE



HEADROOM (DIM X)	INSIDE PROJECTION MOTOR (DIM Y)	INSIDE PROJECTION BARREL (DIM Z)
500mm	595mm	370mm
500mm	625mm	405mm
560mm	625mm	410mm
560mm	625mm	420mm
560mm	660mm	470mm



0.80mm INDIVIDUAL STEEL SLATS
2mm STEEL GUIDES
ALUMINIUM BOTTOM BAR
NEOPRENE BOTTOM SEAL

OPTIONAL REBATE

OWNER	BHUTAN POWER CORPORATION LTD TRANSMISSION CONSTRUCTION DEPARTMENT		
PROJECT	CONSTRUCTION OF 66/33kV SUBSTATION AT JAMTSHOLING, SIPSOO		
TITLE	CONTROL ROOM BUILDING		
DRAWN	D.KINLEY (MPE-CIVIL)	DATE	FEBRUARY 2021
CHECKED		SCALE	NTS
APPROVED		SHEET No: 18	
REV. No.	DESCRIPTION	CHECKED	APPROVED
DRG. No:	66KV SUBSTATION JAMTSHOLING/CONTROLROOM/ARCHITECTURAL/18		REV: 0

REV. No.	DESCRIPTION	CHECKED	APPROVED	DATE

DOOR SCHEDULE

	SIZE		QUANTITY	REMARKS
	WIDTH	HEIGHT		
D0	2450	2200	1 NOS	ALUMINUM SHUTTER DOOR
D1	1200	2400	1 NOS	ALUMINUM SHUTTER DOOR
DC	1950	2200	1 NOS	ALUMINUM SHUTTER DOOR
D2	1000	2200	1 NOS	PANELED DOOR SHUTTER WITH TIMBER FRAMING.
D3	850	2200	1 NOS	PANELED DOOR SHUTTER WITH TIMBER FRAMING.
RS	3475	3450	1 NOS	MOTORIZED ROLLER SHUTTER AS PER DRAWING AND SPECIFICATION

WINDOW SCHEDULE

	SIZE		PARTICULARS	QUANTITY	REMARKS
	WIDTH	HEIGHT			
W1	3030	1880	FOUR PANELS	12 NOS	TIMBER FRAME WITH 5.5MM THK. CLEAR FLOAT GLASS WITH SUN FLIM. ALUMINUM SHUTTERS
W2	1200	1880	THREE PANELS	2 NOS	TIMBER FRAME WITH 5.5MM THK. CLEAR FLOAT GLASS.
W3	1875	1880	TWO PANELS	1 NOS	TIMBER FRAME WITH 5.5MM THK. CLEAR FLOAT GLASS. ALUMINUM SHUTTERS
W4	800	1880	TWO PANELS	2 NOS	TIMBER FRAME WITH 5.5MM THK. CLEAR FLOAT GLASS.
V1	1000	1880	SINGLE PANEL	4 NOS	TIMBER FRAME WITH 5.5MM FROSTED GLASS. ALUMINUM SHUTTERS.

FLOORING SCHEDULE

FLOOR CODE	ROOM DETAIL	FLOOR FINISH
FF1	CONTROL ROOM	EPOXY FLOOR FINISH
FF2	BATTERY ROOM	ANTI ACID TILES FLOOR FINISH
FF3	IN-CHARGE OFFICE	EPOXY FLOOR FINISH
FF4	STORE/METER TESTING ROOM	IRONITE FLOOR FINISH
FF5	TOILETS	ANTI SKID TILES, 600X600MM

GENERAL NOTES FOR DOORS AND WINDOWS:

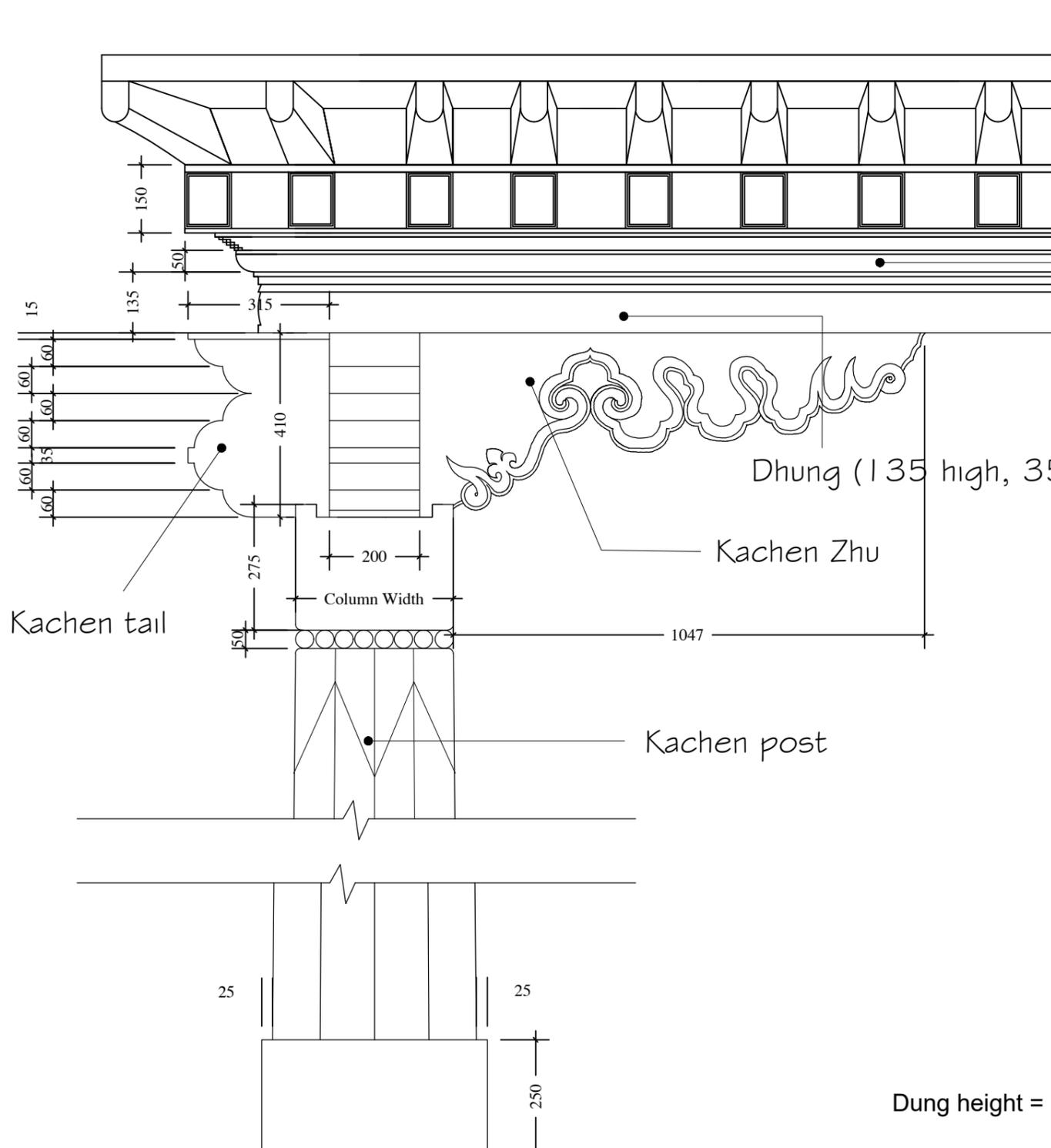
- WOODWORK (DRESSED) FOR FRAMES OF DOORS, WINDOWS AND OTHER FRAMES AND BEADING SHALL BE OF TEAK WOOD WITH ALUMINUM SHUTTERS S.
- ALL JOINTS IN FRAMES TO BE OF MORTISE AND TENON TYPE PUT TOGETHER WITH 10MM DIA. HARDWOOD PINS.
- ALL TIMBER SURFACE ABUTTING AGAINST CONCRETE OR EMBEDDED IN FLOOR FINISH TO BE PAINTED WITH APPROVED WOOD PRIMER OR WITH BOILING COAL TAR.
- THREE HOLD FASTS USING 25 MM X 6 MM MILD STEEL FLATS 225 LONG WITH SPLIT ENDS SHALL BE FIXED AN EACH SIDE OF DOOR AND WINDOW FRAMES, ONE AT THE CENTER AND THE OTHER TWO AT 300 MM FROM THE TOP AND BOTTOM OF THE FRAME EMBEDDED IN CONCRETE BLOCKS OF P.C.C (1:3:6) CAST-IN-SITU DURING WALL CONSTRUCTION.
- PELMET SHALL BE PROVIDED FOR WINDOWS AND DOORS WITH NECESSARY CURTAIN FITTINGS.
- BHUTANESE ARCHITECTURAL CURVES SHALL BE AS PER LATEST PRACTICE AND FIXED TO WINDOW FRAMES AS PER APPROVAL OF ENGINEER IN CHARGE.
- FIX ORNAMENTAL GRILLS OF 20MMX2MM FOR WINDOWS

SPECIFICATION FOR FALSE CEILING

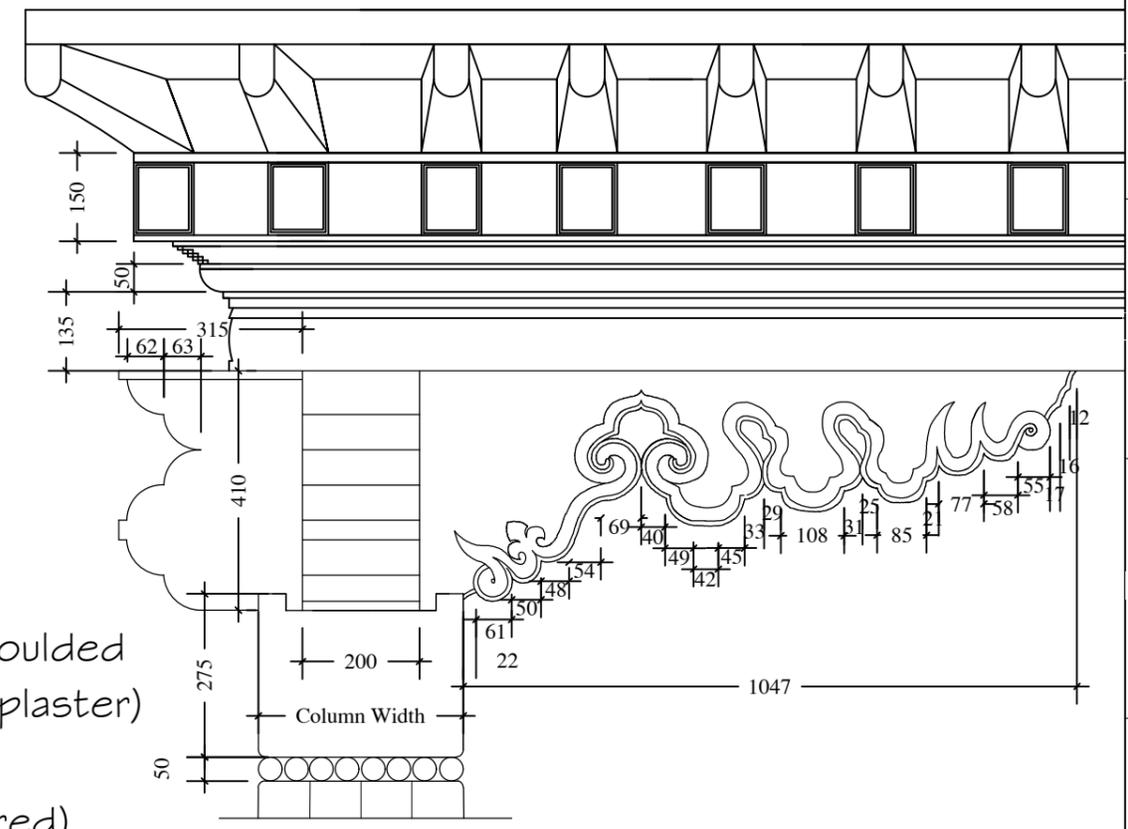
Providing and fixing of TRAC-84C ceiling system comprising of 84 mm wide x 12.50 mm deep panels with flange of 23.5mm, made out of 0.5mm thick Alloy AA 3105/3005/5050 chromatised and stove enamelled on both sides in off-white shade. Panels shall be fixed on to rolled formed carriers 32 mm wide x 39 mm deep out of 0.6 mm galvanized steel with cut-outs to hold the panels in a module of 100 mm at maximum 1.6 m centre to centre. Carried to be suspended from roof / truss by 4 mm galvanized steel wire rod hangers or 19 swg industrial GI wire, with special height adjustment suspension clips at regular intervals. Hangers to be fixed by 'J'hooks and nylon inserts. Panels shall be factory cut-to-length up to maximum 5 m to suit site dimensions. Edge profiles / wall angels to be 19 mm x 19 mm, 0.5 mm thick of Aluminium matching the colour of the panels.

OWNER	BHUTAN POWER CORPORATION LTD TRANSMISSION CONSTRUCTION DEPARTMENT		
PROJECT	CONSTRUCTION OF 66/33kV SUBSTATION AT JAMTSHOLING, SIPSOO		
TITLE	CONTROL ROOM BUILDING		
DRAWN	D.KINLEY (MPE-CIVIL)	DATE	FEBRUARY 2021
CHECKED		SCALE	NTS
APPROVED		SHEET No: 19	
DRG. No:	66KV SUBSTATION JAMTSHOLING/CONTROLROOM/ARCHITECTURAL/19		REV: 0

REV. No.	DESCRIPTION	CHECKED	APPROVED	DATE



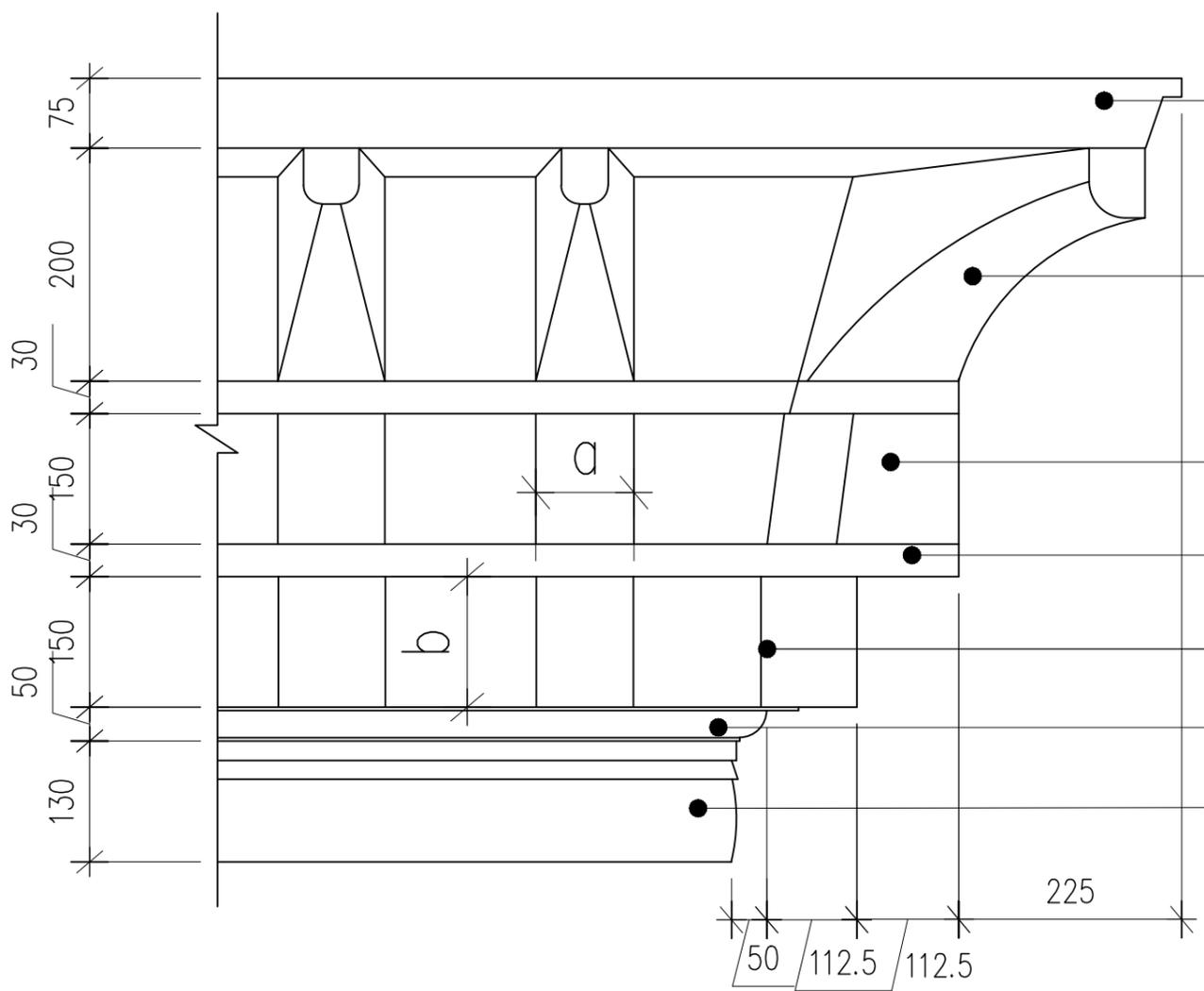
KACHEN ELEVATION



KACHEN ZHU DETAIL

Dung height = 135mm

OWNER	BHUTAN POWER CORPORATION LTD TRANSMISSION CONSTRUCTION DEPARTMENT		
PROJECT	CONSTRUCTION OF 66/33kV SUBSTATION AT JAMTSHOLING, SIPSOO		
TITLE	CONTROL ROOM BUILDING		
DRAWN	D.KINLEY (MPE-CIVIL)	DATE	FEBRUARY 2021
CHECKED		SCALE	NTS
APPROVED		SHEET No: 20	
REV. No.	DESCRIPTION	CHECKED	APPROVED
DRG. No:	66KV SUBSTATION JAMTSHOLING/CONTROLROOM/ARCHITECTURAL/20	REV:	0



- 75 thk phakhep(RCC casted and cement plastered)
- Phana (RCC casted and cement plastered)
- 30 mm thk bokhep
- Upper Boh (RCC casted & cement plastered)
- 30 mm thk bokhep
- Lower Boh (RCC casted & plastered)
- Pem (moulded on site with cement plaster)
- Dung (moulded on site with cement plaster)

NOTE

Phana height = 200mm
 Width = 100mm
 Boh : a = 100mm
 b = 150mm
 Spacing between bohs (b') = 200mm
 (There will be plus / minus in spacings)
 Pem height = 50mm
 Dung height = 130mm

OWNER	BHUTAN POWER CORPORATION LTD TRANSMISSION CONSTRUCTION DEPARTMENT		
PROJECT	CONSTRUCTION OF 66/33kV SUBSTATION AT JAMTSHOLING, SIPSOO		
TITLE	CONTROL ROOM BUILDING		
DRAWN	D.KINLEY (MPE-CIVIL)	DATE	FEBRUARY 2021
CHECKED		SCALE	NTS
APPROVED		SHEET No: 21	
REV. No.	DESCRIPTION	CHECKED	APPROVED
DRG. No:	66KV SUBSTATION JAMTSHOLING/CONTROLROOM/ARCHITECTURAL/21		REV: 0

REV. No.	DESCRIPTION	CHECKED	APPROVED	DATE